UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

URGENT LEGAL MATTER--PROMPT REPLY NECESSARY
CERTIFIED MAIL--RETURN RECEIPT REQUESTED

President
Englehard Minerals and Chemicals Corporation
1209 Orange Street
Wilmington, DE 19801

Re: Berry's Creek Study Area, Bergen County, New Jersey Request to Perform RI/FS Pursuant to the Comprehensive Environmental Response, Compensation, and Liability Act, 42 U.S.C. Section 9601 *et seq.*

Dear Sir or Madam,

As you know, EPA has documented the release and threat of release of hazardous substances into the environment at the Berry's Creek Study Area portion of the Ventron/Velsicol Superfund Site, Bergen County, New Jersey (the "Site"). In response to the release and threat of release of hazardous substances at the Site, EPA has spent public funds and anticipates spending additional public funds pursuant to CERCLA.

EPA has previously noticed your company regarding its status as a potentially responsible party ("PRP") under Section 107(a) of CERCLA, 42 U.S.C. §9607(a). By this letter, EPA reiterates that it considers your company to be a PRP with respect to the Site.

REQUEST TO PERFORM REMEDIAL INVESTIGATION/FEASIBILITY STUDY ("RI/FS")

By this letter, EPA invites your company to enter into a settlement with EPA which provides for the PRPs and other parties (hereinafter referred to collectively as "the Parties") to conduct the RI/FS required at the Site. Any agreement by the Parties to perform the RI/FS will need to be memorialized in an administrative order on consent ("AOC") issued by EPA under CERCLA. A draft of the AOC (with the appended Statement of Work (SOW)) is enclosed. It contains an explanation of the work that will be required to implement the RI/FS. Further details of the study were provided in the Framework Document (which was provided on CD-ROM with the Notice Letter), and at an informational meeting that EPA held on April 3, 2006. In addition, as explained below, EPA will be available to meet with you to discuss questions concerning the RI/FS.

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By **January 19, 2007** or within thirty (30) days from the date of your receipt of this letter, whichever is later, please submit a letter indicating your company's willingness to conduct the RI/FS. Your letter should include the following elements:

1. A statement of your company's willingness to conduct the RI/FS;

2. Your company's comments, if any, on EPA's draft AOC and SOW; and

3. The name, address, phone number and e-mail address of the individual who will represent you in the negotiations.

If your company has not already submitted a good faith offer in response to EPA's March 9, 2006 Notice Letter, then your letter should also include:

4. A demonstration of your company's technical capability to carry out the RI/FS including the identification of the firm(s) that may actually conduct the work or a description of the process that will be undertaken to select the firm(s);

5. A demonstration of your company's capability to finance the RI/FS; and

6. A statement of the willingness by your company to reimburse EPA for costs incurred in overseeing your implementation of the RI/FS.

Please be advised that pursuant to Section 104(a) of CERCLA, 42 U.S.C. §9604(a), EPA will only allow the Parties to perform the RI/FS if it determines that they are qualified to perform the action and can do so properly and promptly.

If EPA does not receive a timely response, it will assume that the Parties do not wish to enter into a settlement for, or participate in, the RI/FS. In such an event, EPA will take appropriate action at the Site, which could include issuance of a Unilateral Administrative Order to your company under Section 106(a) of CERCLA, 42 U.S.C. § 9606(a), requiring that it perform the RI/FS, or EPA may perform the RI/FS and pursue a cost recovery claim against your company pursuant to Section 107 of CERCLA, 42 U.S.C. § 9607.

INFORMATION TO ASSIST THE PARTIES

EPA would like to encourage good faith negotiations between the Parties and EPA, as well as among the Parties. To assist the Parties in preparing a proposal and in negotiating with EPA concerning this matter, EPA is providing a list of names and addresses of all Parties who are being notified. Inclusion on, or exclusion from, the list does not constitute a final determination by EPA concerning the liability of any Party for the release or threat of a release of hazardous substances at the Site.

STEERING COMMITTEE

EPA understands that the Parties have elected to have John Hanson, Esq. serve as their representative in negotiations with EPA. EPA looks forward to working with Mr. Hanson on this matter. A collective response to this letter through Mr. Hanson instead of individual responses is acceptable to EPA.

Responses to the Request contained in this letter should be sent to:

Douglas Tomchuk
USEPA Region 2
290 Broadway, 19th Floor
New York, NY 10007-1866

With a copy to:

Clay Monroe
Assistant Regional Counsel
USEPA Region 2
290 Broadway, 17th Floor
New York, NY 10007-1866

Due to the seriousness of these matters, EPA urges that immediate attention and prompt responses be given to this letter.

If you have any questions regarding the Request to Perform the RI/FS, or would like to discuss this matter with EPA, please call or have your attorney call me at (212) 637-3142.

Sincerely,

Clay Monroe

Clay Monroe
Assistant Regional Counsel

Enclosures

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION II

IN THE MATTER OF: THE VENTRON/VELSICOL SUPERFUND SITE RESPONDENTS. Proceeding Under Sections 104, 122(a), and 122(d)(3) of the Comprehensive Environmental Response, Compensation, and Liability Act as amended (42 U.S.C. §§ 9604, 9622(a), 9633(d)(3)).	U.S. EPA Index No. II-CERCLA-2007-2003

ADMINISTRATIVE SETTLEMENT AGREEMENT AND ORDER ON CONSENT
FOR REMEDIAL INVESTIGATION AND FEASIBILITY STUDY

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I. INTRODUCTION

1. This Administrative Settlement Agreement and Order on Consent ("Settlement Agreement") is entered into voluntarily by the United States Environmental Protection Agency ("EPA") and the above-captioned Respondents ("Respondents"). The Settlement Agreement concerns the preparation of, performance of, and reimbursement for all costs incurred by EPA in connection with a Remedial Investigation and Feasibility Study ("RI/FS") at the Berry's Creek Study Area ("Site") located in the Boroughs of Carlstadt, East Rutherford, Moonachie, Rutherford, Teterboro and Woodridge, Bergen County, New Jersey.

II. JURISDICTION

2. This Settlement Agreement is issued under the authority vested in the President of the United States by Sections 104, 107 and 122 of the Comprehensive Environmental Response, Compensation, and Liability Act, ("CERCLA") as amended, 42 U.S.C. §§ 9604, 9607, and 9622. This authority was delegated to the Administrator of EPA on January 23, 1987, by Executive Order 12580, 52 Fed. Reg. 2926 (1987), and further delegated to the Regional Administrators on September 13, 1987, by EPA Delegation No. 14-14-C and 14-14-D.

3. In accordance with Sections 104(b)(2) and 122(j)(1) of CERCLA, 42 U.S.C. §§ 9604(b)(2) and 9622(j)(1), EPA notified the the U.S. Department of Commerce and the U.S. Fish and Wildlife Service on _____, 2004, of negotiations with potentially responsible parties regarding the release of hazardous substances that may have resulted in injury to the natural resources under Federal trusteeship.

4. EPA and Respondents recognize that this Order has been negotiated in good faith and that the actions undertaken by Respondents in accordance with this Order do not constitute an admission of any liability. Respondents do not admit, and retain the right to controvert in any subsequent proceedings other than proceedings to implement or enforce this Order, the validity of the findings of fact, conclusions of law and determinations in Section VI of this Order. Respondents agree to comply with and be bound by the terms of this Order and further agree that they will not contest the basis or validity of this Order or its terms.

III. PARTIES BOUND

5. This Order applies to and is binding upon EPA and upon Respondents and their successors and assigns. Any change in ownership or corporate status of a Respondent including, but not limited to, any transfer of assets or real or personal property shall not alter such Respondent's responsibilities under this Order.

6. Respondents are jointly and severally liable for carrying out all activities required by this Order. In the event of the insolvency or other failure of any one or more Respondents to implement the requirements of this Order, the remaining Respondents shall complete all such requirements.

7. Respondents shall ensure that their contractors, subcontractors, and representatives receive a copy of this Order and comply with this Order. Respondents shall be responsible for any noncompliance with this Order.

8. Each undersigned representative of Respondents certifies that he or she is fully authorized to enter into the terms and conditions of this Order and to execute and legally bind Respondents to this document.

IV. DEFINITIONS

9. Unless otherwise expressly provided herein, the terms of this Order shall have the same meaning as assigned to them by CERCLA and the Resource Conservation and Recovery Act ("RCRA"), as amended, 42 U.S.C. §§9601-9675 and 6901-6991, respectively.

Whenever the following terms listed below are used in this Order and Attachments, the following definitions shall apply:

A. "CERCLA" shall mean the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended, 42 U.S.C. §9601, *et seq.*

B. "Contractor" shall mean the company, companies or individuals retained by Respondents to perform any of the Work required by this Order.

C. "Day" shall mean a calendar day unless otherwise expressly stated. "Working day" shall mean a day consisting of hours 8 a.m. to 6 p.m., other than a Saturday, Sunday, or Federal holiday. In computing any period of time under this Order, where the last day would fall on a Saturday, Sunday, or Federal Holiday, the period shall run until the close of business on the next working Day.

D. "Designated Project Coordinator" shall mean the person designated by Respondents who shall be charged with the duty of being at all times knowledgeable of the performance of all work performed pursuant to this Order.

E. "EPA" or "Agency" shall mean the United States Environmental Protection Agency and any successor department or agency of the United States.

F. "Future Response Costs" shall mean all costs, including, but not limited to, direct and indirect costs, that the United States incurs in reviewing or developing plans, reports and other items pursuant to this Order, verifying the Work, or otherwise implementing, overseeing, or enforcing this Order, including but not limited to, payroll costs, contractor costs, travel costs, laboratory costs, Agency for Toxic Substances and Disease Registry ("ATSDR") costs, the costs incurred pursuant to Paragraph 62 (costs and attorneys fees and any monies paid to secure access, including the amount of just compensation), and Paragraph 48 (emergency response), and Paragraph 92 (Work Takeover).

G. "Hazardous substances" shall mean any substance (or mixture containing any hazardous substance) that falls within the definition of a "hazardous substance," as defined in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14).

H. "Interest" shall mean interest at the rate specified for interest on investments of the EPA Hazardous Substance Superfund established by 26 U.S.C. § 9507, compounded annually, in accordance with 42 U.S.C. § 9607(a). The applicable rate of interest shall be the rate in effect at the time the interest accrues. The rate of interest is subject to change on October 1 of each year.

I. "NJDEP" shall mean the New Jersey Department of Environmental Protection.

J. "National Contingency Plan" or "NCP" shall mean the National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. Part 300, and all amendments thereto.

K. "Settlement Agreement" shall mean this Administrative Settlement Agreement and Order on Consent, the SOW, all appendices attached hereto (listed in Section XXVIII) and all documents incorporated by reference into this document including without limitation EPA-approved submissions. EPA-approved submissions (other than progress reports) are incorporated into and become a part of the Settlement Agreement upon approval by EPA. In the event of conflict between this Settlement Agreement and any appendix, this Order shall control.

L. "Paragraph" shall mean a portion of this Order identified by an Arabic numeral.

M. "Parties" shall mean the United States Environmental Protection Agency and Respondents.

N. "Respondents," shall mean signatories to this Settlement Agreement other than EPA.

O. "Site" shall mean the Berry's Creek Study Area, located in the Boroughs of Carlstadt, East Rutherford, Moonachie, Rutherford, Teterboro and Woodridge in Bergen County, New Jersey, and any areas where contamination from the Site has come to be located and depicted generally on the map attached as Appendix B.

P. "Statement of Work" shall mean the Statement of Work for development of a RI/FS for the Site, as set forth in Appendix A to this Settlement Agreement. The Statement of Work

is incorporated into this Settlement Agreement and is an enforceable part of this Settlement Agreement as are any modifications made thereto in accordance with this Settlement Agreement.

Q. "Waste Material" shall mean (1) any "hazardous substance" under Section 101(14) of CERCLA, 42 U.S.C. § 9601(14); (2) any pollutant or contaminant under Section 101(33) of CERCLA, 42 U.S.C. § 9601(33); and (3) any "solid waste" under Section 1004(27) of RCRA, 42 U.S.C. § 6903(27).

R. "Work" shall mean all activities Respondents are required to perform under this Settlement Agreement, except those required by Section XV (Retention of Records).

V. STATEMENT OF PURPOSE

10. In entering into this Settlement Agreement, the objectives of EPA and Respondents are: (a) to determine the nature and extent of contamination and any threat to the public health, welfare, or the environment caused by the release or threatened release of hazardous substances, pollutants or contaminants at or from the Site, by conducting a Remedial Investigation as more specifically set forth in the Statement of Work ("SOW") attached as Appendix A to this Settlement Agreement; (b) to identify and evaluate remedial alternatives to prevent, mitigate or otherwise respond to or remedy any release or threatened release of hazardous substances, pollutants, or contaminants at or from the Site, by conducting a Feasibility Study as more specifically set forth in the SOW; and (c) to recover response and oversight costs incurred by EPA with respect to this Settlement Agreement.

11. The Work conducted under this Settlement Agreement is subject to approval by EPA and Respondents shall provide all information necessary to assess Site conditions and evaluate alternatives to the extent necessary to select a remedy that will be consistent with CERCLA and the National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. Part 300 ("NCP"). Respondents shall conduct all Work under this Settlement Agreement in compliance with CERCLA, the NCP, and all applicable EPA guidances, policies, and procedures.

VI. EPA's FINDINGS OF FACT AND CONCLUSIONS OF LAW

12. The Berry's Creek Study Area (hereinafter referred to as the "Site") is located in Bergen County and traverses the Boroughs of Rutherford, East Rutherford, Carlstadt, Wood Ridge, Moonachie, and Teterboro. Berry's Creek is a tidal tributary of the Hackensack River. The Berry's Creek Watershed encompasses approximately 12 square miles of wetlands inside the Hackensack River watershed. The Site also contains industrial and commercial properties.

13. The Site is part of the Ventron/Velsicol Superfund Site. The Ventron/Velsicol property adjacent to Berry's Creek was initially developed by FW Berk Company in 1929 as a mercury processing facility. From 1929 to 1960, first as lessee and then as owner of the 40 acre tract, Berk operated a mercury processing plant, dumping untreated waste material and allowing mercury-laden effluent to drain on the tract. In 1960 the Wood Ridge Chemical Co. (owned by Velsicol Co.) purchased the 40-acre tract. In 1968 the mercury plant and the associated 7-acre parcel were purchased by Ventron Corp. while Velsicol retained ownership of the remaining 33-acre parcel. Mercury processing operations ceased in 1974 and the property was listed on the NPL in 1983. Currently the Velsicol property is owned by the LePetomane III, Inc. Custodial Trust, the successor to Velsicol's liabilities. The Ventron property is owned by Jerbil, Inc. and Jonathan and Roni Blonde. After Ventron ceased mercury processing operations, it was acquired by Thiokol Corp., which merged with Morton International, Inc. in 1982 to form Morton Thiokol, Inc. This company dissolved in 1989 with Morton International retaining chemical operations and liabilities. Currently, Morton International, Inc. (a wholly owned subsidiary of Rohm and Haas Co.) is a successor in interest to the Ventron Corp. and is the owner of the 7-acre portion of the former Wood Ridge chemical facility.

14. In 1982 the Ventron/Velsicol/Berry's Creek Site was proposed for inclusion on the National Priorities List ("NPL"). On September 1, 1983 the Site was formally placed on the NPL, with NJDEP designated as the lead Agency for directing the investigation and cleanup of the Site.

15. On July 21, 1983, the Supreme Court of New Jersey entered final judgment in litigation captioned State of New Jersey v. Ventron Corp. et al. The Court affirmed the lower

court's judgment holding Berk, Wood Ridge, Velsicol and Ventron jointly and severally liable for the cleanup and removal of mercury from the Berry's Creek area.

16. Arsynco, Inc. manufactured organic chemicals along Berry's Creek, beginning in 1905. Tidal flows from Berry's Creek washed contamination from on-site ditches and an on-site pond into Berry's Creek. Storm-water runoff channels at the facility drained directly into Berry's Creek. A 1977 report states that repeated chemical spills from the facility ran into Berry's Creek.

17. Becton Dickinson and Company, Inc. owned and operated a facility in East Rutherford from its construction in 1907 until circa 1990. The East Rutherford facility manufactured medical and hospital products and supplies, including thermometers and metal parts. The facility was bordered by Ann Street, Route 17, Stanley Street and Francis Street. A Preliminary Assessment was completed in 1989. No further remedial action is planned under CERCLA. The site was addressed under ECRA/ISRA and no further action is planned. An ECRA Sampling and Analysis Plan dated June 1987 identified substances including mercury, cadmium, chromium, lead and other metals; and petroleum hydrocarbons in soils at the facility. A 1969 NJDOH Industrial Waste Survey states that Becton was discharging process wastes from plating and glass manufacturing to storm sewers that discharged to Berry's Creek. The wastes included heavy metals and other chemicals. Approximately 90,000 cubic feet of plating wastes were discharged each month. A 1970 NJDOH order states that the facility is discharging industrial waste to nearby water bodies and requires that wastewater treatment and/or disposal facilities be installed. Later, perhaps beginning in the late 1980s, Becton discharged non-contact cooling water and storm water runoff to Berry's Creek under a NJPDES permit. Becton was issued a Notice of Violation for exceeding discharge limits for chromium, lead and zinc in 1988. The storm sewers that carried Becton's effluents ran across the upland portion of the UOP site, and discharged into stream channels on the UOP site that are tributaries to Berry's Creek.

18. Cosan Chemical Corp. Cosan is located in Carlstadt adjacent to Arsynco, on its southeast side. A Preliminary Assessment was completed in 1990. No further remedial action is planned under CERCLA. The site is to be addressed under ISRA. The facility manufactures specialty chemicals, including organic

mercury chemicals, for the paints, coatings, and catalysts industries. The facility began operating in January 1973. Cosan and/or BASF stored elemental mercury at the Cosan facility and converted it to mercury-based chemical intermediates. The facility generates several wastes with high concentrations of mercury. In 1989, Cosan received a permit to operate a hazardous waste drum storage area at the Carlstadt site. Runoff from the facility discharges to Berry's Creek. Facility non-contact cooling water is discharged to Berry's Creek, and treated process water is discharged to the municipal sewer, under NJPDES permits.

19. The Henkel Corp. property (formerly owned and operated by Diamond Shamrock Corp.) is located to the south of the Ventron Site and is adjacent to the Ventron Site along most of its western boundary. The facility was used to manufacture chemicals, including processes involving the use of sulfur compounds, naphthalene, zinc and other organic and organometallic compounds. During World War II, the facility was used for metal reclamation. Approximately 335,000 tons of process waste were disposed of at the facility. Disposal methods included landfills, pits, ponds, and lagoons. A site assessment indicates that many chemicals used at the Diamond Shamrock facility are found in Berry's Creek. These include PCBs, zinc, cadmium, chromium and other chemicals. The Remedial Investigation (RI) report for the Ventron Site indicates elevated concentrations of these chemicals in the wetlands and water bodies adjacent to the Diamond Shamrock facility, in some cases at concentrations greater than that found in the adjacent filled area of the Ventron Site. Available evidence documents numerous spills of process chemicals, some discharging to Berry's Creek; as well as spills involving PCB-contaminated oils; and soil and groundwater contamination involving several Berry's Creek chemicals of potential concern.

20. The Randolph Products, Inc. facility occupies the lot immediately to the south of the developed portion of the Ventron Site, in between the Ventron Site and the Henkel property. Randolph manufactures paints and lacquers, and used a large number of chemicals in its manufacturing operations including metallic-based pigments and organic solvents. Randolph has operated at the facility since the 1930s. The site is on New Jersey's list of Known Contaminated Sites. There are or have been several discharge pathways at the Randolph facility that lead to Berry's Creek. Rainwater is discharged through a trough

to the low-lying area of the Ventron Site adjacent to the facility. According to the RI report for the Ventron Site, wastes generated at the Randolph Products facility were discharged across the Ventron Site through a ditch, and later a discharge pipe. The discharge ran into a settling basin on the filled portion of the Ventron Site, and ultimately to Berry's Creek. A number of Berry's Creek contaminants of potential concern have been found in soil and water samples at the Randolph facility. These include cadmium, chromium, lead, mercury and other metals; PAHs and VOCs. NJDEP and EPA inspections document numerous environmental violations and a history of apparently poor waste management practices at the Randolph facility, which sometimes resulted or were suspected to have resulted in discharges to Berry's Creek or its tributaries. Records indicate leaking drums discharging to Berry's Creek tributaries; an overflow to a septic tank drain found to contain PAHs, metals, and other substances; and a heavy sheen, reported to be runoff from the paint manufacturing plant, noted on water in the drainage trough that drains to Berry's Creek.

21. The UOP Superfund Site in East Rutherford is adjacent to Berry's Creek. Portions of the UOP site include wetlands and stream channels that are hydrologically connected to Berry's Creek. The site was developed in 1932 and was originally used as an aroma chemical laboratory. Facilities were later expanded to handle chemical wastes and solvent recovery operations. Two waste water holding lagoons were used as holding areas for the facility wastewater. In 1963, the Universal Oil Products Company (UOP) merged with Trubeck Laboratories, Inc., and became the owner-operator of the site. Subsequently, UOP, Inc. was acquired by The Signal Companies, Inc. and was operated as a wholly-owned subsidiary of The Signal Companies. UOP was a chemical manufacturer, producing gasoline additives and products for refining petroleum. UOP operated a solvent recovery plant, waste water treatment plant, and waste water holding lagoons at the site. In 1979, UOP terminated all operations at the site. During the years of operation, both the wastewater lagoons and the routine handling of raw materials and wastes resulted in the release of various hazardous substances to the soils and shallow groundwater, including PCBs, PAHs, lead and volatile organic chemicals. UOP entered into Administrative Consent Orders with the New Jersey Department of Environmental Protection (NJDEP) in 1982, 1983 and 1986, to perform remedial activities at the site. Remedial investigations demonstrated the presence of site-related chemicals in the site wetlands and stream channels, and

in nearby Berry's Creek. In 1985, Allied Corporation and Signal Companies, Inc. merged to form AlliedSignal, Inc., and UOP became a wholly owned subsidiary of AlliedSignal, Inc. In 1998, ASI Speciality Chemicals, L.L.C., a wholly owned subsidiary of Allied Signal, became owner of the Site. In 1999, AlliedSignal merged with Honeywell, Inc., and became Honeywell International, Inc. Honeywell continues to perform remedial activities at the site.

22. The SCP Superfund Site is a six-acre site located in Carlstadt. It is bordered on the northeast by Peach Island Creek, a tidal tributary to Berry's Creek. The site is a former waste processing facility. About 375,000 gallons of hazardous substances were stored on-site in tanks, drums, and tank trailers. Site operations were shut down in 1980. An interim remedy, consisting of a slurry wall, infiltration barrier, and de-watering system, was completed in 1992. Peach Island Creek is part of Operable Unit 3 of the SCP Site. The results of a remedial investigation showed that the water table aquifer at the site, which is grossly contaminated, was impacting Peach Island Creek surface water and sediments. The remedial investigation included water quality and sediment sampling at four stations along Peach Island Creek. Site-related contaminants detected in Peach Island Creek include PCBs, VOCs and dieldrin. PCBs and VOCs have been detected at elevated levels nearby in Berry's Creek. Other SCP Site-related contaminants, such as metals and PAHs, were found at elevated levels in Peach Island Creek.

23. Groundwater and soil contaminants found at the Site include, but are not limited to, arsenic, bis(2-ethylhexyl) phthalate, butyl benzyl phthalate, cadmium, chlorobenzene, chloroform, chromium, copper, cyanide, dichlorobenzene, di-n-butyl phthalate, 1,2-dichlorobenzene, 1,2-dichloroethane, dieldrin, di-n-octyl phthalate, ethylbenzene, lead, mercury, methylene chloride, methyl ethyl ketone, naphthalene, nickel, petroleum hydrocarbons, phenanthrene, phenol, polychlorinated biphenyls, pyrene, selenium, silver, tetrachloroethylene, thallium, toluene, 1,2-trans dichloroethylene, 1,1,1-trichloroethane, trichloroethylene, xylene, and zinc.

24. By letter dated _____, NJDEP requested that EPA assume lead agency responsibility for the Ste.

25. The conditions described in Paragraphs 16-23 constitute a "release," as defined in Section 101(22) of CERCLA, 42 U.S.C. §9601(22). In addition, there is a threat of further releases of hazardous substances at and from the Site.

26. Exposure to the various hazardous substances present at the Site by direct contact, inhalation, or ingestion may cause a variety of adverse human health effects.

27. The continuing release(s) of hazardous substances present at the Site may continue to impact the Berry's Creek and Hackensack River Watersheds, the environment, and surrounding residents and businesses.

28. The Site is a "facility" as defined in Section 101(9) of CERCLA, 42 U.S.C. § 9601(9).

29. Wastes and constituents thereof at the Site, sent to the Site, disposed of at the Site, and/or transported to the Site identified in Paragraphs 16-23 are "hazardous substances" as defined in Section 101(14) of CERCLA, 42 U.S.C. § 9601(14), or constitute "any pollutant or contaminant" that may present an imminent and substantial danger to public health or welfare under Section 104(a)(1) of CERCLA.

30. The presence of hazardous substances at the Site or the past, present or potential migration of hazardous substances currently located at or emanating from the Site, constitute actual and/or threatened "releases" as defined in Section 101(22) of CERCLA, 42 U.S.C. § 9601(22).

31. Respondents are "person[s]" as defined in Section 101(21) of CERCLA, 42 U.S.C. § 9601(21).

32. Respondents are responsible parties under Sections 104, 107 and 122 of CERCLA, 42 U.S.C. §§ 9604, 9607 and 9622.

a. Each Respondent is a person who either generated the hazardous substances found at the Site, is a person who at the time of disposal of any hazardous substances owned or operated the Site, or is a person who arranged for disposal or transport for disposal of hazardous substances at the Site. Each Respondent therefore may be liable under Section 107(a) of CERCLA, 42 U.S.C. § 9607(a).

b. Respondents [insert names] are the "owner(s)" and/or "operator(s)" of the facility, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(1) of CERCLA, 42 U.S.C. § 9607(a)(1).

c. Respondents [insert names] were the "owners" and/or "operators" of the facility at the time of disposal of hazardous substances at the facility, as defined by Section 101(20) of CERCLA, 42 U.S.C. § 9601(20), and within the meaning of Section 107(a)(2) of CERCLA, 42 U.S.C. § 9607(a)(2).

d. Respondents [insert names] arranged for disposal or treatment, or arranged with a transporter for transport for disposal or treatment of hazardous substances at the facility, within the meaning of Section 107(a)(3) of CERCLA, 42 U.S.C. § 9607(a)(3).

e. Respondents [insert names] accept or accepted hazardous substances for transport to the facility selected by Respondents, within the meaning of Section 107(a)(4) of CERCLA, 42 U.S.C. § 9607(a)(4).]

33. The actions required by this Settlement Agreement are necessary to protect the public health, welfare or the environment, are in the public interest, 42 U.S.C. § 9622(a), are consistent with CERCLA and the NCP, 42 U.S.C. §§ 9604(a)(1), 9622(a), and will expedite effective remedial action and minimize litigation, 42 U.S.C. § 9622(a).

34. EPA has determined that Respondents are qualified to conduct the RI/FS within the meaning of Section 104(a) of CERCLA, 42 U.S.C. § 9604(a), and will carry out the Work properly and promptly, in accordance with Sections 104(a) and 122(a) of CERCLA, 42 U.S.C. §§ 9604(a) and 9622(a), if Respondents comply with the terms of this Settlement Agreement.

VII. NOTICE

35. By providing a copy of this Settlement Agreement to the State of New Jersey ("State"), EPA is notifying the State that this Settlement Agreement is being issued and that EPA is the lead agency for coordinating, overseeing, and enforcing the response action required by the Settlement Agreement.

VIII. SETTLEMENT AGREEMENT

36. Based upon the foregoing Findings of Fact and Conclusions of Law and Determinations, it is hereby Ordered and Agreed that Respondents shall comply with all provisions of this Settlement Agreement, including, but not limited to, all attachments to this Settlement Agreement and all documents incorporated by reference into this Settlement Agreement.

IX. DESIGNATION OF CONTRACTORS AND PROJECT COORDINATORS

37. Selection of Contractors, Personnel. All Work performed under this Settlement Agreement shall be under the direction and supervision of qualified personnel. Within 30 days of the Effective Date of this Settlement Agreement, and before the Work outlined below and in the SOW begins, Respondents shall notify EPA in writing of the names, titles, and qualifications of the personnel, including contractors, subcontractors, consultants and laboratories to be used in carrying out such Work. With respect to any proposed contractor, Respondents shall demonstrate that the proposed contractor has a quality system which complies with ANSI/ASQC E4-1994, "Specifications and Guidelines for Quality Systems for Environmental Data Collection and Environmental Technology Programs," (American National Standard, January 5, 1995, or most recent version), by submitting a copy of the proposed contractor's Quality Management Plan ("QMP"). The QMP should be prepared in accordance with "EPA Requirements for Quality Management Plans (QA/R-2)," (EPA/240/B-01/002, March 2001 or subsequently issued guidance) or equivalent documentation as determined by EPA. The qualifications of the persons undertaking the Work for Respondents shall be subject to EPA's review, for verification that such persons meet minimum technical background and experience requirements. This Settlement Agreement is contingent on Respondents' demonstration to EPA's satisfaction that Respondents are qualified to perform properly and promptly the actions set forth in this Settlement Agreement. If EPA disapproves in writing of any person's technical qualifications, Respondents shall notify EPA of the identity and qualifications of the replacements within 30 days of the written notice. If EPA subsequently disapproves of the replacement, EPA reserves the right to terminate this Settlement Agreement and to conduct a complete RI/FS, and to seek reimbursement for costs and penalties from Respondents. During the course of the RI/FS, Respondents shall notify EPA in writing

of any changes or additions in the personnel used to carry out such Work, providing their names, titles, and qualifications. EPA shall have the same right to disapprove changes and additions to personnel as it has hereunder regarding the initial notification.

38. Within 30 days after the Effective Date, Respondents shall designate a Project Coordinator who shall be responsible for administration of all actions by Respondents required by this Settlement Agreement and shall submit to EPA the designated Project Coordinator's name, address, telephone number, and qualifications. To the greatest extent possible, the Project Coordinator shall be present on Site or readily available during Site Work. EPA retains the right to disapprove of the designated Project Coordinator. If EPA disapproves of the designated Project Coordinator, Respondents shall retain a different Project Coordinator and shall notify EPA of that person's name, address, telephone number and qualifications within 14 days following EPA's disapproval. Respondents shall have the right to change their Project Coordinator, subject to EPA's right to disapprove. Respondents shall notify EPA 14 days before such a change is made. The initial notification may be made orally, but shall be promptly followed by a written notification. Receipt by Respondents' Project Coordinator of any notice or communication from EPA relating to this Settlement Agreement shall constitute receipt by Respondents.

39. EPA has designated Douglas Tomchuk of the New Jersey Remediation Branch, Region II, as its Project Coordinator. EPA will notify Respondents of a change of its designated Project Coordinator. Except as otherwise provided in this Settlement Agreement, Respondents shall send all submissions required by this Settlement Agreement by certified mail, return receipt requested, or by UPS or Federal Express, to the Project Coordinator at:

7 copies: (including 1 unbound copy)	Douglas Tomchuk U.S. Environmental Protection Agency, Region II 290 Broadway, 19th Floor New York, New York 10007-1866

Respondents shall submit in electronic form all portions of any report or other deliverable Respondents are required to submit pursuant to provisions of this Settlement Agreement.

40. EPA's Project Coordinator shall have the authority lawfully vested in a Remedial Project Manager ("RPM") and On-Scene Coordinator ("OSC") by the NCP. In addition, EPA's Project Coordinator shall have the authority consistent with the NCP, to halt any Work required by this Settlement Agreement, and to take any necessary response action when s/he determines that conditions at the Site may present an immediate endangerment to public health or welfare or the environment. The absence of the EPA Project Coordinator from the area under study pursuant to this Settlement Agreement shall not be cause for the stoppage or delay of Work.

41. EPA shall arrange for a qualified person to assist in its oversight and review of the conduct of the RI/FS, as required by Section 104(a) of CERCLA, 42 U.S.C. Section 9604(a). Such person shall have the authority to observe Work and make inquiries in the absence of EPA, but not to modify the RI/FS Work Plan.

X. WORK TO BE PERFORMED

42. Respondents shall conduct the RI/FS in accordance with the provisions of this Settlement Agreement, the SOW, CERCLA, the NCP and EPA guidance, including, but not limited to the "Interim Final Guidance for Conducting Remedial Investigations and Feasibility Studies under CERCLA" (OSWER Directive # 9355.3-01, October 1988 or subsequently issued guidance), "Guidance for Data Useability in Risk Assessment" (OSWER Directive #9285.7-05, October 1990 or subsequently issued guidance), and guidance referenced therein, and guidances referenced in the SOW, as may be amended or modified by EPA. The Remedial Investigation ("RI") shall consist of collecting data to characterize site conditions, determining the nature and extent of the contamination at or from the Site, assessing risk to human health and the environment and conducting treatability testing as necessary to evaluate the potential performance and cost of the treatment technologies that are being considered. The Feasibility Study ("FS") shall determine and evaluate (based on treatability testing, where appropriate) alternatives for remedial action to prevent, mitigate or otherwise respond to or remedy the release or threatened release of hazardous substances, pollutants, or contaminants at or from the Site. The alternatives evaluated must include, but shall not be limited to, the range of alternatives described in the NCP, and

shall include remedial actions that utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable. In evaluating the alternatives, Respondents shall address the factors required to be taken into account by Section 121 of CERCLA, 42 U.S.C. § 9621, and Section 300.430(e) of the NCP, 40 C.F.R. § 300.430(e). The RI/FS workplan to be submitted by Respondents in accordance with the SOW will contain the schedule for completion of most deliverables required by this Settlement Agreement.

43. Upon receipt of the draft FS report, EPA will evaluate, as necessary, the estimates of the risk to the public and environment that are expected to remain after a particular remedial alternative has been completed and will evaluate the durability, reliability and effectiveness of any proposed Institutional Controls.

44. Modification of the RI/FS Work Plan.

a. If at any time during the RI/FS process, Respondents identify a need for additional data, Respondents shall submit a memorandum documenting the need for additional data to the EPA Project Coordinator within 30 days of identification. EPA in its discretion will determine whether the additional data will be collected by Respondents and whether it will be incorporated into reports and deliverables.

b. In the event of unanticipated or changed circumstances at the Site, Respondents shall notify the EPA Project Coordinator by telephone within 24 hours of discovery of the unanticipated or changed circumstances. In addition to the authorities in the NCP, in the event that EPA determines that the immediate threat or the unanticipated or changed circumstances warrant changes in the RI/FS Work Plan, EPA shall modify or amend the RI/FS Work Plan in writing accordingly. Respondents shall perform the RI/FS Work Plan as modified or amended.

c. EPA may determine that in addition to tasks defined in the initially approved RI/FS Work Plan, other additional Work may be necessary to accomplish the objectives of the RI/FS. Respondents agree to perform these response actions in addition to those required by the initially approved RI/FS Work Plan, including any approved modifications, if EPA determines that such actions are necessary for a complete RI/FS.

d. Respondents shall confirm their willingness to perform the additional Work in writing to EPA within 7 days of receipt of the EPA request. If Respondents object to any modification determined by EPA to be necessary pursuant to this Paragraph, Respondents may seek dispute resolution pursuant to Section XVI (Dispute Resolution). The SOW and/or RI/FS Work Plan shall be modified in accordance with the final resolution of the dispute.

e. Respondents shall complete the additional Work according to the standards, specifications, and schedule set forth or approved by EPA in a written modification to the RI/FS Work Plan or written RI/FS Work Plan supplement. EPA reserves the right to conduct the Work itself at any point, to seek reimbursement from Respondents, and/or to seek any other appropriate relief.

f. Nothing in this Paragraph shall be construed to limit EPA's authority to require performance of further response actions at the Site.

45. Off-Site Shipment of Waste Material. Respondents shall, prior to any off-site shipment of Waste Material from the Site to an out-of-state waste management facility, provide written notification of such shipment of Waste Material to the appropriate state environmental official in the receiving facility's state and to EPA's Designated Project Coordinator.

a. Respondents shall include in the written notification the following information: (1) the name and location of the facility to which the Waste Material is to be shipped: (2) the type and quantity of the Waste Material to be shipped; (3) the expected schedule for the shipment of the Waste Material; and (4) the method of transportation. Respondents shall notify the state in which the planned receiving facility is located of major changes in the shipment plan, such as a decision to ship the Waste Material to another facility within the same state, or to a facility in another state.

b. The identity of the receiving facility and state will be determined by Respondents following the award of the contract for the remedial investigation and feasibility study. Respondents shall provide the information required by Subparagraph 45.a and 45.c as soon as practicable after the

award of the contract and before the Waste Material is actually shipped.

c. Before shipping any hazardous substances, pollutants, or contaminants from the Site to an off-site location, Respondents shall obtain EPA's certification that the proposed receiving facility is operating in compliance with the requirements of CERCLA Section 121(d)(3), 42 U.S.C. § 9621(d)(3), and 40 C.F.R. § 300.440. Respondents shall only send hazardous substances, pollutants, or contaminants from the Site to an off-site facility that complies with the requirements of the statutory provision and regulation cited in the preceding sentence.

46. Meetings. Respondents shall make presentations at, and participate in, meetings at the request of EPA during the initiation, conduct, and completion of the RI/FS. In addition to discussion of the technical aspects of the RI/FS, topics will include anticipated problems or new issues. Meetings will be scheduled at EPA's discretion.

47. Progress Reports. In addition to the deliverables set forth in this Settlement Agreement, Respondents shall provide to EPA monthly progress reports by the 7th day of the following month. At a minimum, with respect to the preceding month, these progress reports shall (1) describe the actions which have been taken to comply with this Settlement Agreement during that month, (2) include all results of sampling and tests and all other data received by Respondents, (3) describe Work planned for the next two months with schedules relating such Work to the overall project schedule for RI/FS completion, and (4) describe all problems encountered and any anticipated problems, any actual or anticipated delays, and solutions developed and implemented to address any actual or anticipated problems or delays.

48. Emergency Response and Notification of Releases.

a. In the event of any action or occurrence during performance of the Work which causes or threatens a release of Waste Material from the Site that constitutes an emergency situation or may present an immediate threat to public health or welfare or the environment, Respondents shall immediately take all appropriate action. Respondents shall take these actions in accordance with all applicable provisions of this Settlement

Agreement, including, but not limited to, the Health and Safety Plan, in order to prevent, abate or minimize such release or endangerment caused or threatened by the release. Respondents shall also immediately notify the EPA Project Coordinator or, in the event of his/her unavailability, the Chief of the Central New Jersey Remediation Section of the Emergency and Remedial Response Division of EPA Region II) by telephone (212-637-4380) of the incident or Site conditions. In the event that Respondents fail to take appropriate response action as required by this Paragraph, and EPA takes such action instead, Respondents shall reimburse EPA all costs of the response action not inconsistent with the NCP pursuant to Section XIX (Payment of Response Costs).

b. In addition, in the event of any release of a hazardous substance from the Site, Respondents shall immediately notify the EPA Project Coordinator, the Chief of the Central New Jersey Remediation Section of the Emergency and Remedial Response Division of EPA Region II) by telephone (212-637-4380) and the National Response Center at (800) 424-8802. Respondents shall submit a written report to EPA within 7 days after each release, setting forth the events that occurred and the measures taken or to be taken to mitigate any release or endangerment caused or threatened by the release and to prevent the reoccurrence of such a release. This reporting requirement is in addition to, and not in lieu of, reporting under Section 103(c) of CERCLA, 42 U.S.C. § 9603(c), and Section 304 of the Emergency Planning and Community Right-To-Know Act of 1986, 42 U.S.C. § 11004, *et seq.*

XI. EPA APPROVAL OF PLANS AND OTHER SUBMISSIONS

49. After review of any plan, report or other item that is required to be submitted for approval pursuant to this Settlement Agreement, EPA shall: (a) approve, in whole or in part, the submission; (b) approve the submission upon specified conditions; (c) modify the submission to cure the deficiencies; (d) disapprove, in whole or in part, the submission, directing that Respondents modify the submission; or (e) any combination of the above. However, EPA shall not modify a submission without first providing Respondents at least one notice of deficiency and an opportunity to cure within 14 days, except where to do so would cause serious disruption to the Work or where previous submission(s) have been disapproved due to material defects.

50. In the event of approval, approval upon conditions, or modification by EPA, pursuant to Subparagraph 49(a), (b), (c) or (e), Respondents shall proceed to take any action required by the plan, report or other item, as approved or modified by EPA subject only to their right to invoke the Dispute Resolution procedures set forth in Section XVI (Dispute Resolution) with respect to the modifications or conditions made by EPA. Following EPA approval or modification of a submittal or portion thereof, Respondents shall not thereafter alter or amend such submittal or portion thereof unless directed by EPA. In the event that EPA modifies the submission to cure the deficiencies pursuant to Subparagraph 49(c) and the submission had a material defect, EPA retains the right to seek stipulated penalties, as provided in Section XVII (Stipulated Penalties).

51. Resubmission of Plans.

a. Upon receipt of a notice of disapproval, Respondents shall, within 14 days or such longer time as specified by EPA in such notice, correct the deficiencies and resubmit the plan, report, or other item for approval. Any stipulated penalties applicable to the submission, as provided in Section XVII, shall accrue during the 14-day period or otherwise specified period but shall not be payable unless the resubmission is disapproved or modified due to a material defect as provided in Paragraphs 52 and 53.

b. Notwithstanding the receipt of a notice of disapproval, Respondents shall proceed to take any action required by any non-deficient portion of the submission, unless otherwise directed by EPA. Implementation of any non-deficient portion of a submission shall not relieve Respondents of any liability for stipulated penalties under Section XVII (Stipulated Penalties).

c. Respondents shall not proceed further with any subsequent activities or tasks until receiving EPA approval for the following deliverables: RI/FS Work Plan and Sampling and Analysis Plan, Draft Phase 2 Report (Remedial Investigation Report), Treatability Testing Work Plan and Sampling and Analysis Plan, and Draft Phase 3 Report (Feasibility Study Report). While awaiting EPA approval on these deliverables, Respondents shall proceed with all other tasks and activities which may be conducted independently of these deliverables, in

accordance with the schedule set forth in this Settlement Agreement.

d. For all remaining deliverables not enumerated above in subparagraph 51.c., Respondents shall proceed will all subsequent tasks, activities and deliverables without awaiting EPA approval on the submitted deliverable. EPA reserves the right to stop Respondents from proceeding further, either temporarily or permanently, on any task, activity or deliverable at any point during the RI/FS.

52. If EPA disapproves a resubmitted plan, report or other item, or portion thereof, EPA may again direct Respondents to correct the deficiencies. EPA shall also retain the right to modify or develop the plan, report or other item. Respondents shall implement any such plan, report, or item as corrected, modified or developed by EPA, subject only to their right to invoke the procedures set forth in Section XVI (Dispute Resolution).

53. If upon resubmission, a plan, report, or item is disapproved or modified by EPA due to a material defect, Respondents shall be deemed to have failed to submit such plan, report, or item timely and adequately unless Respondents invoke the dispute resolution procedures in accordance with Section XVI (Dispute Resolution) and EPA's action is revoked or substantially modified pursuant to a Dispute Resolution decision issued by EPA or superceded by an agreement reached pursuant to that Section. The provisions of Section XVI (Dispute Resolution) and Section XVII (Stipulated Penalties) shall govern the implementation of the Work and accrual and payment of any stipulated penalties during Dispute Resolution. If EPA's disapproval or modification is not otherwise revoked, substantially modified or superceded as a result of a decision or agreement reached pursuant to the Dispute Resolution process set forth in Section XVI, stipulated penalties shall accrue for such violation from the date on which the initial submission was originally required, as provided in Section XVII.

54. In the event that EPA takes over some of the tasks, but not the preparation of the RI Report or the FS Report, Respondents shall incorporate and integrate information supplied by EPA into the final reports.

55. All plans, reports, and other items submitted to EPA under this Settlement Agreement shall, upon approval or modification by EPA, be incorporated into and enforceable under this Settlement Agreement. In the event EPA approves or modifies a portion of a plan, report, or other item submitted to EPA under this Settlement Agreement, the approved or modified portion shall be incorporated into and enforceable under this Settlement Agreement.

56. Neither failure of EPA to expressly approve or disapprove of Respondents' submissions within a specified time period, nor the absence of comments, shall be construed as approval by EPA. Whether or not EPA gives express approval for Respondents' deliverables, Respondents are responsible for preparing deliverables acceptable to EPA.

XII. QUALITY ASSURANCE, SAMPLING, AND ACCESS TO INFORMATION

57. Quality Assurance. Respondents shall assure that Work performed, samples taken and analyses conducted conform to the requirements of the SOW, the QAPP and guidances identified therein. Respondents will assure that field personnel used by Respondents are properly trained in the use of field equipment and in chain of custody procedures. Respondents shall only use laboratories which have a documented quality system that complies with "EPA Requirements for Quality Management Plans (QA/R-2)" (EPA/240/B-01/002, March 2001) or equivalent documentation as determined by EPA.

58. Sampling.

a. All results of sampling, tests, modeling or other data (including raw data) generated by Respondents, or on Respondents' behalf, during the period that this Settlement Agreement is effective, shall be submitted to EPA in the next monthly progress report as described in Paragraph 47 of this Settlement Agreement. EPA will make available to Respondents validated data generated by EPA unless it is exempt from disclosure by any federal or state law or regulation.

b. Respondents shall verbally notify EPA at least 14 days prior to conducting significant field events as described in the SOW, RI/FS Work Plan or sampling and analysis plan. At EPA's verbal or written request, or the request of EPA's

oversight assistant, Respondents shall allow split or duplicate samples to be taken by EPA (and its authorized representatives) of any samples collected in implementing this Settlement Agreement. All split samples of Respondents shall be analyzed by the methods identified in the QAPP.

59. Access to Information.

a. Respondents shall provide to EPA, upon request, copies of all documents and information within their possession or control or that of their contractors or agents relating to activities at the Site or to the implementation of this Settlement Agreement, including, but not limited to, sampling, analysis, chain of custody records, manifests, trucking logs, receipts, reports, sample traffic routing, correspondence, or other documents or information related to the Work. Respondents shall also make available to EPA, for purposes of investigation, information gathering, or testimony, their employees, agents, or representatives with knowledge of relevant facts concerning the performance of the Work.

b. Respondents may assert business confidentiality claims covering part or all of the documents or information submitted to EPA under this Settlement Agreement to the extent permitted by and in accordance with Section 104(e)(7) of CERCLA, 42 U.S.C. § 9604(e)(7), and 40 C.F.R. § 2.203(b). Documents or information determined to be confidential by EPA will be afforded the protection specified in 40 C.F.R. Part 2, Subpart B. If no claim of confidentiality accompanies documents or information when it is submitted to EPA, or if EPA has notified Respondents that the documents or information are not confidential under the standards of Section 104(e)(7) of CERCLA or 40 C.F.R. Part 2, Subpart B, the public may be given access to such documents or information without further notice to Respondents. Respondents shall segregate and clearly identify all documents or information submitted under this Settlement Agreement for which Respondents assert business confidentiality claims.

c. Respondents may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If the Respondents assert such a privilege in lieu of providing documents, they shall provide EPA with the following: 1) the title of the document, record, or information; 2) the

date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the contents of the document, record, or information; and 6) the privilege asserted by Respondents. However, no documents, reports or other information created or generated pursuant to the requirements of this Settlement Agreement shall be withheld on the grounds that they are privileged.

d. No claim of confidentiality shall be made with respect to any data, including, but not limited to, all sampling, analytical, monitoring, hydrogeologic, scientific, chemical, or engineering data, or any other documents or information evidencing conditions at or around the Site.

60. In entering into this Settlement Agreement, Respondents waive any objections to any data gathered, generated, or evaluated by EPA, the State or Respondents in the performance or oversight of the Work that has been verified according to the quality assurance/quality control ("QA/QC") procedures required by the Settlement Agreement or any EPA-approved RI/FS Work Plans or Sampling and Analysis Plans. If Respondents object to any other data relating to the RI/FS, Respondents shall submit to EPA a report that specifically identifies and explains its objections, describes the acceptable uses of the data, if any, and identifies any limitations to the use of the data. The report must be submitted to EPA within 15 days of the monthly progress report containing the data.

XIII. SITE ACCESS AND INSTITUTIONAL CONTROLS

61. If the Site, or any other property where access is needed to implement this Settlement Agreement, is owned or controlled by any of Respondents, such Respondents shall, commencing on the Effective Date, provide EPA, and its representatives, including contractors, with access at all reasonable times to the Site, or such other property, for the purpose of conducting any activity related to this Settlement Agreement.

62. Where any action under this Settlement Agreement is to be performed in areas owned by or in possession of someone other than Respondents, Respondents shall use their best efforts to

obtain all necessary access agreements within 60 days after the Effective Date, or as otherwise specified in writing by the EPA Project Coordinator. Respondents shall immediately notify EPA if after using their best efforts they are unable to obtain such agreements. For purposes of this Paragraph, "best efforts" includes the payment of reasonable sums of money in consideration of access. Respondents shall describe in writing their efforts to obtain access. If Respondents cannot obtain access agreements, EPA may either (i) obtain access for Respondents or assist Respondents in gaining access, to the extent necessary to effectuate the response actions described herein, using such means as EPA deems appropriate; (ii) perform those tasks or activities with EPA contractors; or (iii) terminate the Settlement Agreement. Respondents shall reimburse EPA for all costs and attorney's fees incurred by the United States in obtaining such access, in accordance with the procedures in Section XIX (Payment of Response Costs). If EPA performs those tasks or activities with EPA contractors and does not terminate the Settlement Agreement, Respondents shall perform all other activities not requiring access to that property, and shall reimburse EPA for all costs incurred in performing such activities. Respondents shall integrate the results of any such tasks undertaken by EPA into its reports and deliverables.

63. Notwithstanding any provision of this Settlement Agreement, EPA retains all of its access authorities and rights, including enforcement authorities related thereto, under CERCLA, RCRA, and any other applicable statutes or regulations.

XIV. COMPLIANCE WITH OTHER LAWS

64. Respondents shall comply with all applicable local, state and federal laws and regulations when performing the RI/FS. No local, state, or federal permit shall be required for any portion of any action conducted entirely on-site, including studies, if the action is selected and carried out in compliance with Section 121 of CERCLA, 42 U.S.C. § 9621. Where any portion of the Work is to be conducted off-site and requires a federal or state permit or approval, Respondents shall submit timely and complete applications and take all other actions necessary to obtain and to comply with all such permits or approvals. This Settlement Agreement is not, and shall not be construed to be, a permit issued pursuant to any federal or state statute or regulation.

XV. RETENTION OF RECORDS

65. During the pendency of this Settlement Agreement and for a minimum of 10 years after commencement of construction of any remedial action, each Respondent shall preserve and retain all non-identical copies of records and documents (including records or documents in electronic form) now in its possession or control or which come into its possession or control that relate in any manner to the performance of the Work or the liability of any person under CERCLA with respect to the Site, regardless of any corporate retention policy to the contrary. Until 10 years after commencement of construction of any remedial action, Respondents shall also instruct their contractors and agents to preserve all documents, records, and information of whatever kind, nature or description relating to performance of the Work.

66. At the conclusion of this document retention period, Respondents shall notify EPA at least 90 days prior to the destruction of any such records or documents, and, upon request by EPA, Respondents shall deliver any such records or documents to EPA. Respondents may assert that certain documents, records and other information are privileged under the attorney-client privilege or any other privilege recognized by federal law. If Respondents assert such a privilege, they shall provide EPA with the following: 1) the title of the document, record, or information; 2) the date of the document, record, or information; 3) the name and title of the author of the document, record, or information; 4) the name and title of each addressee and recipient; 5) a description of the subject of the document, record, or information; and 6) the privilege asserted by Respondents. However, no documents, reports or other information created or generated pursuant to the requirements of this Settlement Agreement shall be withheld on the grounds that they are privileged.

67. Each Respondent hereby certifies individually that to the best of its knowledge and belief, after thorough inquiry, it has not altered, mutilated, discarded, destroyed or otherwise disposed of any records, documents or other information (other than identical copies) relating to its potential liability regarding the Site since notification of potential liability by EPA or the filing of suit against it regarding the Site and that it has fully complied with any and all EPA requests for

information pursuant to Sections 104(e) and 122(e) of CERCLA, 42 U.S.C. §§ 9604(e) and 9622(e), and Section 3007 of RCRA, 42 U.S.C. § 6927.

XVI. DISPUTE RESOLUTION

68. Unless otherwise expressly provided for in this Settlement Agreement, the dispute resolution procedures of this Section shall be the exclusive mechanism for resolving disputes arising under this Settlement Agreement. The Parties shall attempt to resolve any disagreements concerning this Settlement Agreement expeditiously and informally.

69. If Respondents object to any EPA action taken pursuant to this Settlement Agreement, including billings for Future Response Costs, they shall notify EPA in writing of their objection(s) within 14 days of such action, unless the objection(s) has/have been resolved informally. EPA and Respondents shall have 30 days from EPA's receipt of Respondents' written objection(s) to resolve the dispute (the "Negotiation Period"). The Negotiation Period may be extended at the sole discretion of EPA. Such extension may be granted verbally but must be confirmed in writing.

70. Any agreement reached by the Parties pursuant to this Section shall be in writing and shall, upon signature by the Parties, be incorporated into and become an enforceable part of this Settlement Agreement. If the Parties are unable to reach an agreement within the Negotiation Period, an EPA management official at the Chief of the New Jersey Remediation Superfund Branch of the Emergency and Remedial Response Division, EPA Region II (hereinafter, the "Chief"), level or higher will issue a written decision. EPA's decision shall be incorporated into and become an enforceable part of this Settlement Agreement. Respondents' obligations under this Settlement Agreement shall not be tolled by submission of any objection for dispute resolution under this Section. Following resolution of the dispute, as provided by this Section, Respondents shall fulfill the requirement that was the subject of the dispute in accordance with the agreement reached or with EPA's decision, whichever occurs, and regardless of whether Respondents agree with the decision.

XVII. STIPULATED PENALTIES

71. Respondents shall be liable to EPA for stipulated penalties in the amounts set forth in Paragraphs 72 and 73 for failure to comply with any of the requirements of this Settlement Agreement specified below unless excused under Section XVIII (Force Majeure). "Compliance" by Respondents shall include completion of the Work under this Settlement Agreement or any activities contemplated under any RI/FS Work Plan or other plan approved under this Settlement Agreement identified below, in accordance with all applicable requirements of law, this Settlement Agreement, the SOW, and any plans or other documents approved by EPA pursuant to this Settlement Agreement and within the specified time schedules established by and approved under this Settlement Agreement.

72. For the following major deliverables, stipulated penalties shall accrue in the amount of $7,500 per day, per violation, for the first seven days of noncompliance; $10,000 per day, per violation, for the eighth (8th) through the fourteenth (14th) day of noncompliance; $15,000 per day, per violation, for the fifteenth (15th) day through the thirtieth (30th) day; and $25,000 per day, per violation for all violations lasting beyond thirty (30) days:

A) An original and any revised RI/FS Work Plan;

B) An original and any revised QAPP, or HSP;

C) An original and any revised Phase 2 Report;

D) An original and any revised Baseline Risk Assessment; and

E) An original and any revised Phase 3 Report.

73. For the following interim deliverables, stipulated penalties shall accrue in the amount of $5,000 per day, per

violation, for the first seven (7) days of noncompliance; $7,500 per day, per violation, for the eighth (8th) through fourteenth (14th) day of noncompliance; $10,000 per day, per violation, for the fifteenth (15th) day through the thirtieth (30th) day of noncompliance; and $15,000 per day per violation for all violations lasting beyond thirty (30) days:

A) An original and any revised Phase 1 Report;

B) An original and any revised Identification of Candidate Technologies Memorandum;

C) An original and any revised Treatability Testing Statement of Work;

D) An original and any revised Treatability Testing Work Plan, if required;

E) An original and any revised Treatability Study, QAPP and/or HSP;

F) An original and any revised Treatability Study Evaluation Report, if required;

G) An original and any revised Pathway Analysis Report;

H) Task VIII presentation and memorandum regarding Findings of RI, Remedial Action Objective, and Development and Preliminary Screening of Alternatives;

I) Memorandum and Presentation regarding the draft Phase 3 Report; and

J) Certificate of Insurance.

74. For the monthly progress reports, payments pursuant to Section XIX, deliverables required by the SOW not listed above, or any other violations of this Settlement Agreement not specified above, stipulated penalties shall accrue in the amount of $2,500 per day, per violation, for the first seven (7) days of noncompliance; $5,000 per day, per violation, for the eighth (8th) through the fourteenth (14th) day of noncompliance; $7,500 per day, per violation, for the fifteenth (15th) day through the

thirtieth (30th) day; $10,000 per day, per violation, for all violations lasting beyond thirty (30) days.

75. In the event that EPA assumes performance of a portion or all of the Work pursuant to Paragraph 92 of Section XXI (Reservation of Rights by EPA), Respondents shall be liable for a stipulated penalty in the amount of $7,500,000.

76. All penalties shall begin to accrue on the day after the complete performance is due or the day a violation occurs, and shall continue to accrue through the final day of the correction of the noncompliance or completion of the activity. However, stipulated penalties shall not accrue: (1) with respect to a deficient submission under Section XI (EPA Approval of Plans and Other Submissions), during the period, if any, beginning on the 31st day after EPA's receipt of such submission until the date that EPA notifies Respondents of any deficiency; and (2) with respect to a decision by the EPA Management Official designated in Paragraph 70 of Section XVI (Dispute Resolution), during the period, if any, beginning on the 21st day after the Negotiation Period begins until the date that the EPA Management Official issues a final decision regarding such dispute. Nothing herein shall prevent the simultaneous accrual of separate penalties for separate violations of this Settlement Agreement.

77. Following EPA's determination that Respondents have failed to comply with a requirement of this Settlement Agreement, EPA may give Respondents written notification of the same and describe the noncompliance. EPA may send Respondents a written demand for the payment of the penalties. However, penalties shall accrue as provided in the preceding Paragraph regardless of whether EPA has notified Respondents of a violation.

78. All penalties accruing under this Section shall be due and payable to EPA within 30 days of Respondents' receipt from EPA of a demand for payment of the penalties, unless Respondents invoke the dispute resolution procedures in accordance with Section XVI (Dispute Resolution). All payments to EPA under this Section shall indicate that the payment is for stipulated penalties, and shall be remitted via Electronic Funds Transfer ("EFT"), along with the following information, to EPA's Account with Mellon Bank, Pittsburgh, Pennsylvania, as follows:

i. Amount of Payment
ii. Title of Mellon Bank to receive the payment: EPA
iii. Account code for Mellon Bank account receiving the payment: 9108544
iv. Mellon Bank ABA Routing Number: 043000261
v. Name of Party making payment
vi. EPA Index Number: CERCLA-02-2007-2003
vii. Site/Spill Identifier Number: 02C7

To ensure that a payment is properly recorded, a letter should be sent, within one week of the EFT, which references the date of the EFT, the payment amount, that the payment is for stipulated penalties, the name of the Site, the case Index number, and the name and address of the party making payment to the United States as specified in Paragraph 39 and also to:

U.S. Environmental Protection Agency
26 W. Martin Luther King Drive
Cincinnati Finance Center, MS: NWD
Cincinnati, Ohio 45268
or:

AcctsReceivable.CINWD@epa.gov

79. The payment of penalties shall not alter in any way Respondents' obligation to complete performance of the Work required under this Settlement Agreement.

80. Penalties shall continue to accrue as provided in Paragraph 76 during any dispute resolution period, but need not be paid until 15 days after the dispute is resolved by agreement or by receipt of EPA's decision.

81. If Respondents fail to pay stipulated penalties when due, EPA may institute proceedings to collect the penalties, as well as Interest. Respondents shall pay Interest on the unpaid balance, which shall begin to accrue on the date of demand made pursuant to Paragraph 78.

82. Nothing in this Settlement Agreement shall be construed as prohibiting, altering, or in any way limiting the ability of EPA to seek any other remedies or sanctions available by virtue of Respondents' violation of this Settlement Agreement or of the statutes and regulations upon which it is based, including, but not limited to, penalties pursuant to Section

122(l) of CERCLA, 42 U.S.C. § 9622(l), and punitive damages pursuant to Section 107(c)(3) of CERCLA, 42 U.S.C. § 9607(c)(3). Provided, however, that EPA shall not seek civil penalties pursuant to Section 122(l) of CERCLA or punitive damages pursuant to Section 107(c)(3) of CERCLA for any violation for which a stipulated penalty is provided herein, except in the case of willful violation of this Settlement Agreement or in the event that EPA assumes performance of a portion or all of the Work pursuant to Section XXI (Reservation of Rights by EPA), Paragraph 92. Notwithstanding any other provision of this Section, EPA may, in its unreviewable discretion, waive any portion of stipulated penalties that have accrued pursuant to this Settlement Agreement.

XVIII. FORCE MAJEURE

83. Respondents agree to perform all requirements of this Settlement Agreement within the time limits established under this Settlement Agreement, unless the performance is delayed by a *force majeure*. For purposes of this Settlement Agreement, *force majeure* is defined as any event arising from causes beyond the control of Respondents or of any entity controlled by Respondents, including but not limited to their contractors and subcontractors, which delays or prevents performance of any obligation under this Settlement Agreement despite Respondents' best efforts to fulfill the obligation. *Force majeure* does not include financial inability to complete the Work or increased cost of performance.

84. If any event occurs or has occurred that may delay the performance of any obligation under this Settlement Agreement, whether or not caused by a *force majeure* event, Respondents shall notify EPA orally within forty-eight (48) hours of when Respondents first knew that the event might cause a delay. Within five (5) business days thereafter, Respondents shall provide to EPA in writing an explanation and description of the reasons for the delay; the anticipated duration of the delay; all actions taken or to be taken to prevent or minimize the delay; a schedule for implementation of any measures to be taken to prevent or mitigate the delay or the effect of the delay; Respondents' rationale for attributing such delay to a *force majeure* event if they intend to assert such a claim; and a statement as to whether, in the opinion of Respondents, such event may cause or contribute to an endangerment to public health, welfare or the environment. Failure to comply with the

above requirements shall preclude Respondents from asserting any claim of *force majeure* for that event for the period of time of such failure to comply and for any additional delay caused by such failure.

85. If EPA agrees that the delay or anticipated delay is attributable to *a force majeure* event, the time for performance of the obligations under this Settlement Agreement that are affected by the *force majeure* event will be extended by EPA for such time as is necessary to complete those obligations. An extension of the time for performance of the obligations affected by the *force majeure* event shall not, of itself, extend the time for performance of any other obligation. If EPA does not agree that the delay or anticipated delay has been or will be caused by a *force majeure* event, EPA will notify Respondents in writing of its decision. If EPA agrees that the delay is attributable to a *force majeure* event, EPA will notify Respondents in writing of the length of the extension, if any, for performance of the obligations affected by the *force majeure* event.

XIX. PAYMENT OF RESPONSE COSTS

86. Payments of Future Response Costs.

a. Respondents shall pay EPA all Future Response Costs not inconsistent with the NCP. On a periodic basis, EPA will send Respondents a bill requiring payment that includes a printout of cost data in EPA's financial management system, known as a SCORPIOS report, and by a calculation of EPA's indirect costs. Respondents shall make all payments within 30 days of receipt of each bill requiring payment, except as otherwise provided in Paragraph 87 of this Settlement Agreement, by remitting the amount of those costs via EFT, along with the following information, to EPA's Account with Mellon Bank, Pittsburgh, Pennsylvania, as follows:

i. Amount of Payment
ii. Title of Mellon Bank to receive the payment: EPA
iii. Account code for Mellon Bank account receiving the payment: 9108544

iv. Mellon Bank ABA Routing Number: 043000261
v. Name of Party making payment
vi. EPA Index Number: CERCLA-02-2007-2003
vii. Site/Spill Identifier Number: 02C7

To ensure that a payment is properly recorded, a letter should be sent, within one week of the EFT, which references the date of the EFT, the payment amount, that the payment is for response costs, the name of the Site, the case Index number, and the name and address of the party making payment to the United States a specified in Paragraph 39 and also sent to:

U.S. Environmental Protection Agency
26 W. Martin Luther King Drive
Cincinnati Finance Center, MS: NWD
Cincinnati, Ohio 45268
or:

AcctsReceivable.CINWD@epa.gov

b. The total amount to be paid by Respondents pursuant to Subparagraph 86.a. shall be deposited in the Berry's Creek Site Special Account within the EPA Hazardous Substance Superfund to be retained and used to conduct or finance response actions at or in connection with the Site, or to be transferred by EPA to the EPA Hazardous Substance Superfund.

87. If Respondents do not pay Future Response Costs within 30 days of Respondents' receipt of a bill, Respondents shall pay Interest on the unpaid balance of Future Response Costs. The Interest on unpaid Future Response Costs shall begin to accrue on the date of the bill and shall continue to accrue until the date of payment. If EPA receives a partial payment, Interest shall accrue on any unpaid balance. Payments of Interest made under this Paragraph shall be in addition to such other remedies or sanctions available to the United States by virtue of Respondents' failure to make timely payments under this Section, including but not limited to, payments of stipulated penalties pursuant to Section XVII. Respondents shall make all payments required by this Paragraph in the manner described in Paragraph 86.

88. Respondents may contest payment of any Future Response Costs under Paragraph 86 if they determine that EPA has made an accounting error or if they believe EPA incurred excess costs as a direct result of an EPA action that was inconsistent

with the NCP. Such objection shall be made in writing within 30 days of receipt of the bill and must be sent to the EPA Project Coordinator. Any such objection shall specifically identify the contested Future Response Costs and the basis for objection. In the event of an objection, Respondents shall within the 30 day period pay all uncontested Future Response Costs to EPA in the manner described in Paragraph 86. Simultaneously, Respondents shall establish an interest-bearing escrow account in a federally-insured bank duly chartered in the State of New Jersey and remit to that escrow account funds equivalent to the amount of the contested Future Response Costs. Respondents shall send to the EPA Project Coordinator a copy of the transmittal letter and check paying the uncontested Future Response Costs, and a copy of the correspondence that establishes and funds the escrow account, including, but not limited to, information containing the identity of the bank and bank account under which the escrow account is established as well as a bank statement showing the initial balance of the escrow account. Simultaneously with establishment of the escrow account, Respondents shall initiate the Dispute Resolution procedures in Section XVI (Dispute Resolution). If EPA prevails in the dispute, within 5 days of the resolution of the dispute, Respondents shall pay the sums due (with accrued interest) to EPA in the manner described in Paragraph 86. If Respondents prevail concerning any aspect of the contested costs, Respondents shall pay that portion of the costs (plus associated accrued interest) for which they did not prevail to EPA in the manner described in Paragraph 86. Respondents shall be disbursed any balance of the escrow account. The dispute resolution procedures set forth in this Paragraph in conjunction with the procedures set forth in Section XVI (Dispute Resolution) shall be the exclusive mechanisms for resolving disputes regarding Respondents' obligation to reimburse EPA for its Future Response Costs.

XX. COVENANT NOT TO SUE BY EPA

89. In consideration of the actions that will be performed and the payments that will be made by Respondents under the terms of this Settlement Agreement, and except as otherwise specifically provided in this Settlement Agreement, EPA covenants not to sue or to take administrative action against Respondents pursuant to Sections 106 and 107(a) of CERCLA, 42 U.S.C. §§ 9606 and 9607(a), for the Work and Future Response Costs. This covenant not to sue shall take effect upon the Effective Date and is conditioned upon the complete and

satisfactory performance by Respondents of all obligations under this Settlement Agreement, including, but not limited to, payment of Future Response Costs pursuant to Section XIX. This covenant not to sue extends only to Respondents and does not extend to any other person.

XXI. RESERVATIONS OF RIGHTS BY EPA

90. Except as specifically provided in this Settlement Agreement, nothing herein shall limit the power and authority of EPA or the United States to take, direct, or order all actions necessary to protect public health, welfare, or the environment or to prevent, abate, or minimize an actual or threatened release of hazardous substances, pollutants or contaminants, or hazardous or solid waste on, at, or from the Site. Further, nothing herein shall prevent EPA from seeking legal or equitable relief to enforce the terms of this Settlement Agreement, from taking other legal or equitable action as it deems appropriate and necessary, or from requiring Respondents in the future to perform additional activities pursuant to CERCLA or any other applicable law.

91. The covenant not to sue set forth in Section XX above does not pertain to any matters other than those expressly identified therein. EPA reserves, and this Settlement Agreement is without prejudice to, all rights against Respondents with respect to all other matters, including, but not limited to:

a. claims based on a failure by Respondents to meet a requirement of this Settlement Agreement;

b. liability for costs not included within the definition of Future Response Costs;

c. liability for performance of response action other than the Work;

d. criminal liability;

e. liability for damages for injury to, destruction of, or loss of natural resources, and for the costs of any natural resource damage assessments;

f. liability arising from the past, present, or future disposal, release or threat of release of Waste Materials outside of the Site; and

g. liability for costs incurred or to be incurred by the Agency for Toxic Substances and Disease Registry related to the Site.

92. Work Takeover. In the event EPA determines that Respondents have ceased implementation of any portion of the Work, are seriously or repeatedly deficient or late in their performance of the Work, or are implementing the Work in a manner which may cause an endangerment to human health or the environment, EPA may assume the performance of all or any portion of the Work as EPA determines necessary. Respondents may invoke the procedures set forth in Section XVI (Dispute Resolution) to dispute EPA's determination that takeover of the Work is warranted under this Paragraph. Costs incurred by EPA in performing the Work pursuant to this Paragraph shall be considered Future Response Costs that Respondents shall pay pursuant to Section XIX (Payment of Response Costs). Notwithstanding any other provision of this Settlement Agreement, EPA retains all authority and reserves all rights to take any and all response actions authorized by law.

XXII. COVENANT NOT TO SUE BY RESPONDENTS

93. Respondents covenant not to sue and agree not to assert any claims or causes of action against the United States, or its contractors or employees, with respect to the Work, Future Response Costs, or this Settlement Agreement, including, but not limited to:

a. any direct or indirect claim for reimbursement from the Hazardous Substance Superfund established by 26 U.S.C. § 9507, based on Sections 106(b)(2), 107, 111, 112, or 113 of CERCLA, 42 U.S.C. §§ 9606(b)(2), 9607, 9611, 9612, or 9613, or any other provision of law;

b. any claim arising out of the Work or arising out of the response actions for which the Future Response Costs have or will be incurred, including any claim under the United States Constitution, the New Jersey State Constitution, the Tucker Act, 28 U.S.C. § 1491, the Equal Access to Justice Act, 28 U.S.C. § 2412, as amended, or at common law; or

c. any claim against the United States pursuant to Sections 107 and 113 of CERCLA, 42 U.S.C. §§ 9607 and 9613, relating to the Work or payment of Future Response Costs.

94. These covenants not to sue shall not apply in the event the United States brings a cause of action or issues an order pursuant to the reservations set forth in Paragraphs 91(b), (c), and (e) - (g), but only to the extent that Respondents' claims arise from the same response action, response costs, or damages that the United States is seeking pursuant to the applicable reservation.

95. Nothing in this Agreement shall be deemed to constitute approval or preauthorization of a claim within the meaning of Section 111 of CERCLA, 42 U.S.C. § 9611, or 40 C.F.R. § 300.700(d).

XXIII. OTHER CLAIMS

96. By issuance of this Settlement Agreement, the United States and EPA assume no liability for injuries or damages to persons or property resulting from any acts or omissions of Respondents.

97. Except as expressly provided in Section XX (Covenant Not to Sue by EPA), nothing in this Settlement Agreement constitutes a satisfaction of or release from any claim or cause of action against Respondents or any person not a party to this Settlement Agreement, for any liability such person may have under CERCLA, other statutes, or common law, including but not limited to any claims of the United States for costs, damages and interest under Sections 106 and 107 of CERCLA, 42 U.S.C. §§ 9606 and 9607.

98. No action or decision by EPA pursuant to this Settlement Agreement shall give rise to any right to judicial review except as set forth in Section 113(h) of CERCLA, 42 U.S.C. § 9613(h).

XXIV. CONTRIBUTION

99. a. The Parties agree that this Settlement Agreement constitutes an administrative settlement for purposes of Section 133(f)(2) of CERCLA, 42 U.S.C. Section 9613(f)(2) and that

Respondents are entitled, as of the Effective Date, to protection from contribution actions or claims as provided by Sections 113(f)(2) and 122(h)(4) of CERCLA, 42 U.S.C. §§ 9613(f)(2) and 9622(h)(4), for "matters addressed" in this Settlement Agreement. The "matters addressed" in this Settlement Agreement are the Work, and Future Response Costs.

b. The Parties Agree that this Settlement Agreement constitutes an administrative settlement for purposes of Section 113(f)(3)(B) of CERCLA, 42 U.S.C. Section 9613(f)(3)(B), pursuant to which Respondents have, as of the Effective Date, resolved their liability to the United States for the Work and Future Response Costs.

c. Nothing in this Settlement Agreement precludes the United States or Respondents from asserting any claims, causes of action, or demands for indemnification, contribution, or cost recovery against any persons not parties to this Settlement Agreement. Nothing herein diminishes the right of the United States, pursuant to Sections 113(f)(2) and (3) of CERCLA, 42 U.S.C. Sections 9613(f)(2) and (3), to pursue any such persons to obtain additional response costs or response action and to enter into settlements that give rise to contribution protection pursuant to Section 113(f)(2).

XXV. INDEMNIFICATION

100. Respondents shall indemnify, save and hold harmless the United States, its officials, agents, contractors, subcontractors, employees and representatives from any and all claims or causes of action arising from, or on account of negligent or other wrongful acts or omissions of Respondents, their officers, directors, employees, agents, contractors, or subcontractors, in carrying out actions pursuant to this Settlement Agreement. In addition, Respondents agree to pay the United States all costs incurred by the United States, including but not limited to attorneys fees and other expenses of litigation and settlement, arising from or on account of claims made against the United States based on negligent or other wrongful acts or omissions of Respondents, their officers, directors, employees, agents, contractors, subcontractors and any persons acting on their behalf or under their control, in carrying out activities pursuant to this Settlement Agreement. The United States shall not be held out as a party to any contract entered into by or on behalf of Respondents in carrying

out activities pursuant to this Settlement Agreement. Neither Respondents nor any such contractor shall be considered an agent of the United States.

101. The United States shall give Respondents notice of any claim for which the United States plans to seek indemnification pursuant to this Section and shall consult with Respondents prior to settling such claim.

102. Respondents waive all claims against the United States for damages or reimbursement or for set-off of any payments made or to be made to the United States, arising from or on account of any contract, agreement, or arrangement between any one or more of Respondents and any person for performance of Work on or relating to the Site. In addition, Respondents shall indemnify and hold harmless the United States with respect to any and all claims for damages or reimbursement arising from or on account of any contract, agreement, or arrangement between any one or more of Respondents and any person for performance of Work on or relating to the Site.

XXVI. INSURANCE

103. At least 30 days prior to commencing any On-Site Work under this Settlement Agreement, Respondents shall secure, and shall maintain for the duration of this Settlement Agreement, comprehensive general liability insurance and automobile insurance with limits of 5 million dollars, combined single limit, naming the EPA as an additional insured. Within the same period, Respondents shall provide EPA with certificates of such insurance and a copy of each insurance policy. Respondents shall submit such certificates and copies of policies each year on the anniversary of the Effective Date. In addition, for the duration of the Settlement Agreement, Respondents shall satisfy, or shall ensure that their contractors or subcontractors satisfy, all applicable laws and regulations regarding the provision of worker's compensation insurance for all persons performing the Work on behalf of Respondents in furtherance of this Settlement Agreement. If Respondents demonstrate by evidence satisfactory to EPA that any contractor or subcontractor maintains insurance equivalent to that described above, or insurance covering some or all of the same risks but in an equal or lesser amount, then Respondents need provide only that portion of the insurance described above which is not maintained by such contractor or subcontractor.

XXVII. FINANCIAL ASSURANCE

104. Within 30 days of the Effective Date, Respondents shall establish and maintain financial security for the benefit of EPA in the amount of __ million dollars in one or more of the following forms, in order to secure the full and final completion of Work by Respondents:

a. a surety bond unconditionally guaranteeing payment and/or performance of the Work;

b. one or more irrevocable letters of credit, payable to or at the direction of EPA, issued by financial institution(s) acceptable in all respects to EPA equaling the total estimated cost of the Work;

c. a trust fund administered by a trustee acceptable in all respects to EPA;

d. a policy of insurance issued by an insurance carrier acceptable in all respects to EPA, which ensures the payment and/or performance of the Work;

e. a corporate guarantee to perform the Work provided by one or more parent corporations or subsidiaries of Respondents, or by one or more unrelated corporations that have a substantial business relationship with at least one of Respondents; including a demonstration that any such company satisfies the financial test requirements of 40 C.F.R. Part 264.143(f); and/or

f. a corporate guarantee to perform the Work by one or more of Respondents, including a demonstration that any such Respondent satisfies the requirements of 40 C.F.R. Part 264.143(f).

105. Any and all financial assurance instruments provided pursuant to this Section shall be in form and substance satisfactory to EPA, determined in EPA's sole discretion. In the event that EPA determines at any time that the financial assurances provided pursuant to this Section (including, without

limitation, the instrument(s) evidencing such assurances) are inadequate, Respondents shall, within 30 days of receipt of notice of EPA's determination, obtain and present to EPA for approval one of the other forms of financial assurance listed in Paragraph 104, above. In addition, if at any time EPA notifies Respondents that the anticipated cost of completing the Work has increased, then, within 30 days of such notification, Respondents shall obtain and present to EPA for approval a revised form of financial assurance (otherwise acceptable under this Section) that reflects such cost increase. Respondents' inability to demonstrate financial ability to complete the Work shall in no way excuse performance of any activities required under this Settlement Agreement.

106. If Respondents seek to ensure completion of the Work through a guarantee pursuant to Subparagraph 104.e. or 104.f. of this Settlement Agreement, Respondents shall (i) demonstrate to EPA's satisfaction that the guarantor satisfies the requirements of 40 C.F.R. Part 264.143(f); and (ii) resubmit sworn statements conveying the information required by 40 C.F.R. Part 264.143(f) annually, on the anniversary of the Effective Date, to EPA. For the purposes of this Settlement Agreement, wherever 40 C.F.R. Part 264.143(f) references "sum of current closure and post-closure costs estimates and the current plugging and abandonment costs estimates," the current cost estimate of $__ million for the Work at the Site shall be used in relevant financial test calculations.

107. If, after the Effective Date, Respondents can show that the estimated cost to complete the remaining Work has diminished below the amount set forth in Paragraph 104 of this Section, Respondents may, on any anniversary date of the Effective Date, or at any other time agreed to by the Parties, reduce the amount of the financial security provided under this Section to the estimated cost of the remaining Work to be performed. Respondents shall submit a proposal for such reduction to EPA, in accordance with the requirements of this Section, and may reduce the amount of the security after receiving written approval from EPA. In the event of a dispute, Respondents may seek dispute resolution pursuant to Section XVI (Dispute Resolution). Respondents may reduce the amount of security in accordance with EPA's written decision resolving the dispute.

108. Respondents may change the form of financial assurance provided under this Section at any time, upon notice to and prior written approval by EPA, provided that EPA determines that the new form of assurance meets the requirements of this Section. In the event of a dispute, Respondents may change the form of the financial assurance only in accordance with the written decision resolving the dispute.

XXVIII. INTEGRATION/APPENDICES

109. This Settlement Agreement and its appendices and any deliverables, technical memoranda, specifications, schedules, documents, plans, reports (other than progress reports), etc. that will be developed pursuant to this Settlement Agreement and become incorporated into and enforceable under this Settlement Agreement constitute the final, complete and exclusive agreement and understanding among the Parties with respect to the settlement embodied in this Settlement Agreement. The parties acknowledge that there are no representations, agreements or understandings relating to the settlement other than those expressly contained in this Settlement Agreement. The following appendices are attached to and incorporated into this Settlement Agreement:

"Appendix A" is the SOW.

"Appendix B is the map of the Site

XXIX. ADMINISTRATIVE RECORD

110. EPA will determine the contents of the administrative record file for selection of the remedial action. Respondents shall submit to EPA documents developed during the course of the RI/FS upon which selection of the response action may be based. Upon request of EPA, Respondents shall provide copies of plans, task memoranda for further action, quality assurance memoranda and audits, raw data, field notes, laboratory analytical reports and other reports. Upon request of EPA, Respondents shall additionally submit any previous studies conducted under state, local or other federal authorities relating to selection of the response action, and all communications between Respondents and

state, local or other federal authorities concerning selection of the response action. At EPA's discretion, Respondents shall establish a community information repository at or near the Site, to house one copy of the administrative record.

XXX. EFFECTIVE DATE AND SUBSEQUENT MODIFICATION

111. This Settlement Agreement shall be effective on the date that a fully-executed copy of said Settlement Agreement is received by counsel for Respondents ("Effective Date").

112. This Settlement Agreement may be amended by mutual agreement of EPA and Respondents. Amendments shall be in writing and shall be effective when signed by EPA. EPA Project Coordinators do not have the authority to sign amendments to the Settlement Agreement.

113. No informal advice, guidance, suggestion, or comment by the EPA Project Coordinator or other EPA representatives regarding reports, plans, specifications, schedules, or any other writing submitted by Respondents shall relieve Respondents of their obligation to obtain any formal approval required by this Settlement Agreement, or to comply with all requirements of this Settlement Agreement, unless it is formally modified.

XXXI. NOTICE OF COMPLETION OF WORK

114. When EPA determines that all Work has been fully performed in accordance with this Settlement Agreement, with the exception of any continuing obligations required by this Settlement Agreement, including but not limited to, retention of records and payment of Future Response Costs, EPA will provide written notice to Respondents. If EPA determines that any such Work has not been completed in accordance with this Settlement Agreement, EPA will notify Respondents, provide a list of the deficiencies, and require that Respondents modify the RI/FS Work Plan if appropriate in order to correct such deficiencies, in accordance with Paragraph 44 (Modification of the Work Plan). Failure by Respondents to implement the approved modified RI/FS Work Plan shall be a violation of this Settlement Agreement.

FOR THE UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

_____ DATE:

Regional Administrator
U.S. Environmental Protection Agency
Region II

FOR THE Respondent

CONSENT

The Respondent identified below has had an opportunity to confer with EPA regarding this Settlement Agreement. Respondent hereby consents to the issuance of this Settlement Agreement and to its terms. The individual executing this Settlement Agreement on behalf of Respondent certifies under penalty of perjury under the laws of the United States and of the State of Respondents' incorporation that he or she is fully and legally authorized to agree to the terms and conditions of this Settlement Agreement and to bind Respondent thereto.

Name of Respondent

_____

Signature Date

Printed name of Signatory

Title of Signatory

DRAFT

APPENDIX 1
STATEMENT OF WORK FOR
REMEDIAL INVESTIGATION AND FEASIBILITY STUDY
BERRY'S CREEK STUDY AREA
OPERABLE UNIT TWO OF THE VENTRON/VELSICOL SUPERFUND SITE
BERGEN COUNTY, NEW JERSEY

I. INTRODUCTION

A. The purpose of this remedial investigation/feasibility study ("RI/FS") is to investigate the nature and extent of contamination at the Berry's Creek Study Area (the "Site"), and develop and evaluate potential remedial alternatives. The Site is considered Operable Unit 2 ("OU2") of the Ventron/Velsicol Superfund Site. The RI and FS are interactive and may be conducted concurrently so that the data collected in the RI influences the development of remedial alternatives in the FS, which in turn affects the data needs and the scope of treatability studies, if needed. Operable Unit One at the Ventron/Velsicol Superfund Site ("OU1") addresses contamination in the upland portion of the Ventron/Velsicol Superfund Site, including contaminated soil and groundwater, and is being conducted pursuant to an order issued by the NJDEP. A Record of Decision ("ROD") for Ventron/Velsicol OU1 was signed in October 2006. OU2, which is the subject of this Order, addresses contamination in the surface water, sediments, adjacent wetlands and biota of the Site. Work under the two operable units will be performed concurrently and in coordination.

B. Respondents shall conduct this RI/FS and shall produce draft reports that are in accordance with this statement of work ("SOW"), the Framework Document for the Berry's Creek Study Area, the Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA (U.S. EPA, Office of Emergency and Remedial Response, October 1988),Contaminated Sediment Remediation Guidance for Hazardous Waste Sites, (U.S. EPA, Office of Emergency and Remedial Response, December 2005), and any other guidance that EPA uses in conducting an RI/FS, as well as any additional requirements in the administrative order. The RI/FS Guidance describes the report format and the required report content. Respondents shall furnish all necessary personnel, materials, and services needed for, or incidental to, the performance of the RI/FS, except as otherwise specified in the administrative order.

C. At the completion of the RI/FS for the Site, EPA will be responsible for the selection of the remedy for the Site and will document the selection in a ROD. The remedial action alternative selected by EPA will meet the cleanup standards specified in CERCLA Section 121. That is, the selected remedial action will be protective of human health and the environment, will be in compliance with, or include a waiver of, applicable or relevant and appropriate requirements of other laws, will be cost-effective, will utilize permanent solutions and alternative treatment technologies or resource recovery technologies to the maximum extent practicable, and will address the statutory preference for treatment as a principal element. The final RI/FS report, as adopted by EPA, and the

baseline risk assessment will, with the administrative record, form the basis for the selection of the remedy for the Site and will provide the information necessary to support the development of the ROD.

D. As specified in CERCLA Section 104(a)(1), as amended by SARA, EPA will provide oversight of the Respondent's activities throughout the RI/FS. Respondents shall support EPA's initiation and conduct of activities related to the implementation of oversight activities.

II. TASK I - RI/FS WORK PLAN

A. The RI/FS is conducted to gather sufficient data and information necessary to characterize the nature and extent of contamination and the fate and transport and biouptake of contaminants at the Site in order to support the selection of a remedy for the Site that will reduce or eliminate risks to human health or the environment associated with contamination at the Site. Respondents shall follow the Uniform Federal Policy for Implementing Quality Systems (UFP-QS), EPA-505-F-03-001, March 2005 or newer, Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP), Parts 1, 2 and 3, EPA-505-B-04-900A, B and C, March 2005 or newer, and other guidance documents referenced in the aforementioned guidance documents. The UFP documents may be found at: http://www.epa.gov/fedfac/documents/qualityassurance.htm . In addition, the guidance and procedures located in the EPA Region 2 DESA/HWSB web site: http://www.epa.gov/region02/qa/documents.htm, as well as other OSWER directives and EPA Region 2 policies should be followed, as appropriate. Subsequent amendments to the above, upon notification by EPA to Respondents of such amendments, shall apply only to procedures conducted after such notification.

B. The RI/FS achieves its objectives by determining the horizontal and vertical distribution and concentrations of hazardous substances in the surface water, sediments, wetlands and biota, their association with the Site, as well as the fate and transport and biouptake of contaminants within the Site.

C. Respondents shall conduct the scope of work described in the Framework Document, or similar work that provides the data needs described in that document.

D. Before preparing the Work Plan for RI/FS activities, Respondents should review the existing data for the Site.

E. Respondents will conduct a visit to the Site prior to preparing the Work Plan to assist in developing a conceptual understanding of sources and areas of contamination as well as potential exposure pathways and receptors at the Site. This information will be utilized to better define the project and to determine the extent of additional data necessary to characterize the Site, better define potential ARARs, and narrow the range of preliminarily identified remedial alternatives.

F. Once Respondents have reviewed the scope of work outlined in the Framework Document, collected and analyzed existing data and conducted a visit to the Site, the Work Plan will be developed. Project planning activities include those tasks described below as well as developing a quality assurance project plan and identifying health and safety protocols.

G. RI/FS Work Plan and Schedule. Within forty-five (45) days of the Effective Date of this Settlement Agreement, Respondent shall submit to EPA a detailed Work Plan for the completion of the RI/FS. The RI/FS Work Plan shall include, among other things, a detailed schedule for RI/FS activities at the Site. The schedule shall provide for the completion of the RI/FS within forty-eight (48) months of EPA's approval of the RI/FS Work Plan, or as otherwise extended by EPA. If EPA disapproves, or requires revisions to, the RI/FS Work Plan in whole or in part, Respondents shall amend and submit to EPA a revised Work Plan which is responsive to the directions in all EPA comments, within twenty-one (21) days of receiving EPA's comments. The RI/FS Work Plan shall include:

1. Quality Assurance/Quality Control Project Plan ("QAPP"), which shall be prepared in accordance with the Uniform Federal Policy for Implementing Quality Systems (UFP-QS), EPA-505-F-03-001, March 2005 or newer, Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP), Parts 1, 2 and 3, EPA-505-B-04-900A, B and C, March 2005 or newer, and other guidance documents referenced in the aforementioned guidance documents and which shall include the following elements:

   a. A detailed description of the sampling, analysis, and monitoring that shall be performed during the RI/FS, consistent with this Order. At a minimum, the QAPP shall provide the following:

   b. A plan for the delineation of contamination in the surface water;

   c. A plan for the delineation of contamination in the sediments and subsoils; and

   d. A plan for the determination of contaminant levels in biota found at the Site.

2. All sampling, analysis, data assessment, and monitoring shall be performed in accordance with the guidance provided at http://www.epa.gov/fedfac/documents/qualityassurance.htm, the guidance and procedures located in the EPA Region 2 DESA/HWSB web site: http://www.epa.gov/region02/qa/documents.htm, other OSWER directives and EPA Region 2 policies, as appropriate, or an alternate EPA-approved test method, and the guidelines set forth in this Order. All testing methods and procedures shall be fully documented and referenced to established methods or standards.

   a. The QAPP shall also specifically include the following items:

i. An explanation of the way(s) the sampling, analysis, testing, and monitoring will produce data for the RI/FS ;

ii. A detailed description of the sampling, analysis, and testing to be performed, including sampling methods, analytical and testing methods, sampling locations and frequency of sampling;

iii. A map depicting sampling locations; and

iv. A schedule for performance of specific tasks.

b. In the event that additional sampling locations, testing, and analyses are utilized or required, Respondents shall submit to EPA an addendum to the QAPP for approval by EPA.

c. The QAPP shall include the elements outlined in the Uniform Federal Policy for Implementing Quality Systems (UFP-QS), EPA-505-F-03-001, March 2005 or newer, Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP), Parts 1, 2 and 3, EPA-505-B-04-900A, B and C, March 2005 or newer, and other guidance documents referenced in the aforementioned guidance documents.

d. In order to provide quality assurance and maintain quality control with respect to all samples to be collected, Respondents shall ensure the following:

i. Quality assurance and chain-of-custody procedures shall be performed in accordance with standard EPA protocol and guidance, including the guidance provided in the EPA Region 2 Quality Assurance Homepage, and the guidelines set forth in this Order.

ii. The laboratory to be used must be specified. If the laboratory participates in the Contract Laboratory Program ("CLP") for the analysis to be performed for this investigation, then project-specific Performance Evaluation ("PE") samples will not be required, as CLP laboratories run EPA PEs on a quarterly basis. If the proposed laboratory does not participate in the CLP for the analyses required, PE samples must be analyzed to demonstrate the capability to conduct the required analysis prior to being approved for use. Once a non-CLP laboratory has been selected, the laboratory should submit a copy of their Laboratory Quality Assurance Program Plan ("LQAPP") to EPA for review and approval.

For any analytical work performed, including that done in a fixed laboratory, in a mobile laboratory, or in on-site screening analyses, Respondents must submit to EPA a "Non-CLP Superfund Analytical Services Tracking System" form for each laboratory utilized during a sampling event, within thirty (30) days after acceptance of the analytical results. Upon completion, such documents shall be submitted to the EPA Project Coordinator, with a copy of the form and transmittal letter to:

Regional Sample Control Center Coordinator
U.S. EPA Region 2
Division of Environmental Science & Assessment
2890 Woodbridge Avenue, Bldg. 209, MS-215
Edison, NJ 08837

iii. The laboratory utilized for analyses of samples must perform all analyses according to accepted EPA methods as documented in the "Contract Lab Program Statement of Work for Organic Analysis, (OLM04.2)" or the latest revision, and the "Contract Lab Program Statement of Work for Inorganic Analysis, (ILM05.2)" or the latest revision, or other EPA approved methods.

iv. Unless indicated otherwise in the approved QAPP, upon receipt from the laboratory, all data shall be validated.

v. Submission of the validation package (checklist, report and Form Is containing the final data) to EPA, prepared in accordance with the provisions of Subparagraph vi., below.

vi. Assurance that all analytical data that are validated as required by the QAPP are validated according to the procedures stated in the "EPA Region II Contract Lab Program Organics Data Review and Preliminary Review (SOP #HW-6, Revision 12)," dated March 2001, or the latest revision, and the "Evaluation of Metals Data for the Contract Laboratory Program (SOP #HW-2, Revision 11)," dated January 1992 or the latest revision, or EPA-approved equivalent procedures. Region 2 Standard Operating Procedures are available at: http://www.epa.gov/region02/desa/hsw/sops.htm

vii. Unless indicated otherwise in the QAPP, Respondents shall require deliverables equivalent to CLP data packages from the laboratory for analytical data. Upon EPA's request, Respondents shall submit to EPA the full documentation (including raw data) for this analytical data. EPA reserves the right to perform an independent data validation, data validation check, or qualification check on generated data.

viii. Respondents shall insert a provision in their contract(s) with the laboratory utilized for analyses of samples, which will require granting access to EPA personnel and authorized representatives of the EPA for the purpose of ensuring the accuracy of laboratory results related to the Site.

3. A Health and Safety Plan ("HSP"), which shall conform to 29 CFR §1910.120, "OSHA Hazardous Waste Operations Standards," and the EPA guidance document, "Standard Operating Safety Guidelines" (OSWER, 1988).

4. A Data Management Plan ("DMP"), shall identify the protocol for managing databases and geographic information systems ("GIS") data, and shall assimilate and integrate the historical data and field data. The database system shall comply with the EPA standard-electronic format, following the instruction provided in the "Electronic Data Deliverable Specification Manual, Version 2.1" (or the latest revision.)

H. Following approval or modification by EPA, the RI/FS Work Plan shall be deemed to be incorporated into this Settlement Agreement by reference.

III. TASK II - STAKEHOLDER INVOLVEMENT

EPA will develop a Site-specific Stakeholder Involvement Plan and make revisions to this plan as necessary and in accordance with EPA guidance and the NCP. To the extent requested by EPA, Respondents shall provide information relating to the work required hereunder to the public. As requested by EPA, Respondents shall participate in the preparation of all appropriate information disseminated to the public; participate in public meetings, which may be held or sponsored by EPA, to explain activities at or concerning the Site; and procure a suitable location for public meetings, as needed.

IV. TASK III - SITE CHARACTERIZATION

Following EPA's written approval or modification of the RI/FS Work Plan, Respondents shall implement the provisions of the RI/FS Work Plan to characterize the nature, quantity, concentrations, and fate and transport of hazardous substances, pollutants, or contaminants in connection with the Site.

A. As part of the investigations of the Site, Respondents shall perform the activities described in this task. The overall objective of site characterization is to describe areas of the Site that may pose a threat to human health or the environment. Surface and subsurface pathways of migration will be defined. Respondents shall identify the sources of contamination and define the nature, extent, and volume of the sources of contamination, including their physical and chemical constituents as well as their

concentrations at incremental locations to background in the affected media. Using this information, contaminant fate and transport is then determined and projected.

The Framework Document provides additional description of the work to be conducted as part of the RI/FS. The RI/FS for the Site will be split into three phases. The first two phases consist of Remedial Investigation activities, while the third phase is primarily the Feasibility Study. The Remedial Investigation is split into two phases in order to ensure that the appropriate data is collected utilizing the information obtained in the earlier investigations. The order of field investigation tasks in the Framework Document balances cost effectiveness with the need to complete the study in a timely manner.

B. During this phase of the RI/FS, the QAPP, and health and safety plan are implemented. Field data are collected and analyzed to provide the information required to accomplish the objectives of the study. Respondents shall notify EPA at least fourteen (14) days in advance of the field work regarding the planned dates for field activities, including ecological field surveys, field lay out of the sampling locations, excavation, initiating sampling, installation and calibration of equipment, and initiation of analysis and other field investigation activities. Respondents shall demonstrate that the laboratory and type of laboratory analyses that will be utilized during characterization of the Site meet the specific QA/QC requirements and the Data Quality Objectives ("DQOs") of the Site's investigation as specified in the QAPP. In view of the unknown conditions of the Site, activities are often iterative, and to satisfy the objectives of the RI/FS it may be necessary for the Respondents to modify the work specified in the initial work plan. In addition to the deliverables below, Respondents shall provide a monthly progress report and participate in meetings with EPA at major milestones in the RI/FS process.

Respondents shall provide EPA with monthly updates of analytical data, in the electronic format required by EPA at the time of submission, showing the locations, media and results, as described in the Data Management Plan. Analytical data shall be validated within forty-five (45) days of each sampling activity. Within seven (7) days of completion of field activities, Respondents shall so advise EPA in writing.

1. Field Investigation

The field investigation includes the gathering of data to define the Site's physical and biological characteristics, sources of contamination, and the nature and extent of contamination at the Site. These activities shall be performed by the Respondent in accordance with the RI/FS Work Plan and QAPP. At a minimum, this shall address the following:

a. Implement and Document Field Support Activities

Respondents shall initiate field support activities following approval of the RI/FS work plan and QAPP. Field support activities may include scheduling, and procuring equipment, office space, laboratory services, and/or contractors. Respondents may initiate other time critical field

support activities, such as obtaining access to the Site, prior to approval of the RI/FS work plan and QAPP. Respondents shall provide EPA with reasonable notice prior to initiating field support activities so that EPA may adequately schedule oversight tasks. Respondents shall also notify EPA in writing upon completion of field support activities.

b. Investigate and Define Site Physical and Biological Characteristics

Respondents shall collect data on the physical and biological characteristics of the Site and its surrounding areas, and specific physical characteristics identified in the work plan. This information will be ascertained through a combination of physical measurements, observations, and sampling efforts and will be utilized to define potential transport pathways and human and ecological receptor populations. In defining the physical characteristics of the Site, Respondents shall also obtain sufficient engineering data for the projection of contaminant fate and transport, and development and screening of remedial action alternatives, including information to assess treatment technologies.

c. Define Sources of Contamination

Respondents shall locate each source of contamination to Berry's Creek. For areas of contaminated sediment within Berry's Creek or wetlands and tributaries adjacent to the creek, the areal extent and depth of contamination shall be determined. The physical characteristics and chemical constituents and their concentrations will be determined for all known and discovered contamination. Respondents shall conduct sufficient sampling to define the boundaries of the contaminant sources within the Berry's Creek Study Area to the level established in the QA/QC plan and DQOs. For contamination originating from upland properties, Respondents shall identify whether the source is still contributing contamination to Berry's Creek or adjacent wetlands and tributaries. Upland properties that are still sources of contamination to the creek will be referred to the appropriate agency in order to further evaluate and address the source conditions.

Defining the source of contamination will include analyzing the potential for contaminant release (e.g., long term leaching from soil), contaminant mobility and persistence, and characteristics important for evaluating remedial actions, including information to assess treatment technologies.

d. Describe the Nature and Extent of Contamination

Respondent shall gather information to describe the nature and extent of contamination as a final step during the field investigation. To describe the nature and extent of contamination, Respondents shall utilize the

information on the Site's physical and biological characteristics and sources of contamination to update the conceptual site model. Respondents shall then implement an iterative monitoring program and any study program identified in the RI/FS work plan (which includes the QAPP) such that by using analytical techniques sufficient to detect and quantify the concentration of contaminants, the migration of contaminants through the various media at the Site can be determined. In addition, Respondents shall gather data for calculations of contaminant fate and transport. This process is continued until the area and depth of contamination are known to the level of contamination established in the QA/QC plan and DQOs. The information on the nature and extent of contamination will be used to determine the level of risk presented by the Site. Respondents shall use this information to help to determine aspects of the appropriate remedial action alternatives to be evaluated.

2. Data Analysis

Evaluate Site Characteristics

Respondents shall analyze and evaluate the data to describe: (1) physical and biological characteristics at the Berry's Creek Study Area, (2) contaminant source characteristics, (3) nature and extent of contamination and (4) contaminant fate and transport. Results of the Berry's Creek Study Area's physical characteristics, source characteristics, and extent of contamination analyses are utilized in the analysis of contaminant fate and transport. The evaluation will include the actual and potential magnitude of releases from the sources, and horizontal and vertical spread of contamination as well as mobility and persistence of contaminants. Data collected should support the development of models that will be conducted by EPA. All data and programming, including any proprietary programs, shall be made available to EPA together with a sensitivity analysis. Respondents shall agree to discuss any data gaps identified by the EPA and then collect data that are necessary to complete the baseline risk assessment. (See "Guidance for Data Usability in Risk Assessment" - Publication # 9285.7-09A, April 1992.) Also, this evaluation shall include any information relevant to characteristics of the Site necessary for evaluation in the baseline risk assessment of the need for remedial action and for the development and evaluation of remedial alternatives. (See Risk Evaluation of Remedial Alternatives (Part C) - OSWER Directive 9285.7-01C, December 1991.) Analysis of data collected for characterization of the Site will meet the DQOs developed in the QA/QC plan (or revised during the RI).

3. Data Management Procedures

Respondents shall consistently document the quality and validity of field and laboratory data compiled during the RI.

a. Document Field Activities

Information gathered during characterization of the Site will be consistently documented and adequately recorded by Respondents in well-maintained field logs and laboratory reports. The method(s) of documentation must be specified in the work plan and QAPP. Field logs or dedicated field log-books must be utilized to document observations, measurements, and significant events that have occurred during field activities. Laboratory reports must document sample custody, analytical responsibility, analytical results, adherence to prescribed protocols, nonconformity events, corrective measures, and/or data deficiencies.

b. Maintain Sample Management and Tracking

Respondents shall maintain field reports, sample shipment records, analytical results, and QA/QC reports to ensure that only validated analytical data are reported and utilized in the evaluation of remedial alternatives. Analytical results developed under the work plan will not be included in the site characterization reports for the Site unless accompanied by, or cross- referenced to, a corresponding QA/QC report. In addition, Respondents shall establish a data security system to safeguard chain-of custody forms and other project records to prevent loss, damage, or alteration of project documentation.

4. Phase 1 Report

a. Schedule

Draft Phase 1 Report

In accordance with the schedule in the approved RI/FS Work Plan, Respondents shall submit a Draft Phase 1 Report. Within fourteen (14) days after Respondents' submittal of the Draft Phase 1 Report, Respondents, upon EPA's request, shall make a presentation to EPA and the State on the findings of the Draft Phase 1 Report and discuss EPA's and the State's preliminary comments and concerns associated with the Draft Phase 1 Report.

Final Phase 1 Report

If EPA disapproves of or requires revisions to the Draft Phase 1 Report, in whole or in part, Respondents shall amend and submit to EPA a Final Phase 1 Report that is responsive to the directions in all of EPA's written comments within twenty-one (21) days of receipt of EPA's comments.

b. The Phase 1 Report will review the investigative activities that have taken place, and describe and display data from the Berry's Creek Study Area

documenting the location and characteristics of surface and subsurface features and contamination at the Berry's Creek Study Area including the affected medium, location, physical state, concentration of contaminants and quantity. In addition, the location, dimensions, physical condition and varying concentrations of each contaminant throughout each source and the extent of contaminant migration through each of the affected media will be documented. The report will provide refined DQOs, an updated conceptual site model, a screening level risk assessment, and determination of chemicals of concern. The Phase 1 Report will also include recommendations for the Phase 2 sampling program, which will collect appropriate data to evaluate remedial actions for the Site. The Phase 1 Report will include results of:

i. Historical data review, including potential upland soil sites that are contributing loads to Berry's Creek.

ii. Low-resolution and high-resolution cores plus any required geotechnical and geochemical parameters. Graphical presentations are required for transects across the waterways and across the marshes. Data from high-resolution cores will be used to establish a geochronological history of chemicals, estimate sedimentation rates and mixing layers, identify loading to Berry's Creek and Hackensack River, and identify potential sources of contamination.

iii. Integrative and discrete surface water samples, storm event sampling, and water column stratification plus any field measurements and geochemical parameters. Results are required from the hydrology and hydrodynamic program, including time plots for each mooring station, freshwater flow into Berry's Creek, delineation of the salt front, and status on tidal gate operation. Results should identify the impact of tides on the water quality of Berry's Creek and its tributaries; identify loading to Berry's Creek and the Hackensack River; evaluate correlations between water column concentrations and suspended solids; and characterize the circulation of the creek.

iv. Bathymetric maps and side-scan sonar mosaics to identify water depth, submerged debris in waterways, and potential surface water runoff areas. Images from the side-scan sonar will be provide along with a list of target areas, including debris fields and submerged obstacles. A map of sediment texture (delineated from the side-scan sonar) is required to identify potential scour and depositional areas.

v. Biological and ecological data plus any field measurements and geochemical parameters. A graphical presentation is required for

the delineation of wetlands and other ecosystems. An inventory of flora and fauna, including benthic invertebrates, will be completed to identify receptors and endangered or threatened species. This inventory will provide an assessment of the health of the ecosystem, evaluate flora and fauna diversity (e.g., Shanon Weiner Diversity Index values), and identify the presence of native and intrusive species. The results of the tissue sampling for each species analyzed are required to estimate bioavailability and bioaccumulation of contaminations.

vi. Groundwater sampling program and description of the regional groundwater flow to identify potential contaminant loads from groundwater to Berry's Creek and adjacent wetlands.

vii. Atmospheric deposition data review to evaluate if deposition is a significant component of the conceptual site model.

viii. Soil data review to identify potential contaminant loads from soils to Berry's Creek and adjacent wetlands.

ix. Stage 1A cultural resource investigation detailing the methodology employed to conduct the investigation, presenting the results of the work, providing conclusions on the archaeological sensitivity of the various portions of the Berry's Creek Study Area, and presenting recommendations for any warranted additional investigations. If no additional investigations of all or portions of the project area are warranted, such conclusion should be clearly stated in the report.

c. Interim Remedial Measure Letter Report

Respondents shall prepare a draft letter report that will summarize relevant Phase 1 data and evaluate whether an Interim Remedial Measure ("IRM") or early action is appropriate for the Berry's Creek Study Area. If appropriate, the report will present potential design options and plans to reduce human health and ecological risks. The report will also address whether the action will constitute the entire remedial action and no further action is an appropriate endpoint, or whether the IRM will be an integral part of the final remedy.

Respondents shall submit a Draft IRM Letter Report thirty (30) days after submitting the Draft Phase 1 Report. If EPA disapproves of or requires revisions to the Draft IRM Letter Report, in whole or in part, Respondents shall amend and submit to EPA a Final IRM Letter Report that is responsive to the directions in all of EPA's written comments within twenty-one (21) days of receipt of EPA's comments.

5. Fate and Transport Model Coordination

EPA will be conducting the appropriate fate and transport and biouptake modeling for the Berry's Creek Study Area. Respondents shall coordinate with EPA and its contractors to provide all information necessary for developing, running, validating and verifying the models.

V. TASK IV - IDENTIFICATION OF CANDIDATE TECHNOLOGIES

Schedule: An Identification of Candidate Technologies Memorandum shall be submitted by Respondents within thirty (30) days of Respondents' submission to the EPA of the last set of validated analytical results. The candidate technologies identified shall include innovative treatment technologies (as defined in the RI/FS Guidance) where appropriate. The listing of candidate technologies will cover the range of technologies required for alternatives analysis (Task VIII). If EPA disapproves of or requires revisions to the technical memorandum identifying candidate technologies, in whole or in part, Respondents shall amend and submit to EPA a revised technical memorandum identifying candidate technologies which is responsive to the directions in all EPA comments, within fourteen (14) days of receiving EPA's written comments.

VI. TASK V - TREATABILITY STUDIES

Treatability testing will be performed by the Respondents, at EPA's request, to assist in the detailed analysis of alternatives. In addition, if applicable, testing results and results and operating conditions will be used in the detailed design of the selected remedial technology. The following activities will be performed by the Respondents.

A. Conduct Literature Survey and Determine the Need For Treatability Testing

Respondents shall conduct a literature survey to gather information on performance, relative costs, applicability, removal efficiencies, operation and maintenance ("O&M") requirements, and implementability of candidate technologies. If practical candidate technologies have not been sufficiently demonstrated, or cannot be adequately evaluated, or cannot be adequately evaluated for this Site on the basis of available information, treatability testing will be conducted. Where it is determined by EPA that treatability testing is required, and unless the Respondents can demonstrate to EPA's satisfaction that they are not needed, the Respondents shall submit a Statement of Work to EPA outlining the steps and data necessary to evaluate and initiate the treatability testing program.

B. Evaluate Treatability Studies

Once a decision has been made to perform treatability studies, Respondents and EPA will decide on the type of treatability testing to use (e.g., bench versus pilot). Because of the

time required to design, fabricate, and install pilot scale equipment as well as perform testing for various operating conditions, the decision to perform pilot testing should be made as early in the process as possible to minimize potential delays of the FS. To assure that a treatability testing program is completed on time, and with accurate results, Respondents shall either submit a separate treatability testing work plan or an amendment to the original site work plan for the Site for EPA review and approval.

C. Treatability Testing and Deliverables

The deliverables that will be required if treatability testing is conducted, in addition to the memorandum identifying candidate technologies, shall include a treatability testing statement of work, a work plan, a sampling and analysis plan, and a final treatability evaluation report. EPA may also require a treatability study health and safety plan, where appropriate.

If EPA determines that treatability testing is required and so notifies Respondents in writing, Respondents shall, within fourteen (14) days thereafter, submit to EPA a Treatability Testing Statement of Work.

D. Treatability Testing Work Plan

Within thirty (30) days of written EPA approval of the Treatability Testing Statement of Work, Respondents shall submit a Treatability Testing Work Plan, including a schedule. Upon its approval by EPA, said schedule shall be deemed incorporated into this Order by reference. If EPA disapproves of or requires revisions to the Treatability Testing Work Plan, in whole or in part, Respondents shall amend and submit to EPA a revised Treatability Testing Work Plan which is responsive to the directions in all EPA comments, within twenty-one (21) days of receiving EPA's comments.

Respondents shall prepare a treatability testing work plan or amendment to the original site work plan for the Site for EPA review and approval describing the background of the Site, remedial technology(ies) to be tested, test objectives, experimental procedures, treatability conditions to be tested, measurements of performance, analytical methods, data management and analysis, health and safety, and residual waste management. The DQOs for treatability testing should be documented as well. If pilot scale treatability testing is to be performed, the pilot-scale work plan will describe pilot plant installation and start-up, pilot plant operation and maintenance procedures, operating conditions to be tested, a sampling plan to determine pilot plant performance, and a detailed health and safety plan. If testing is to be performed off-site for the Site, Respondents shall address all necessary permitting requirements to the satisfaction of appropriate authorities.

E. Treatability Study QAPP

Within thirty (30) days of the identification by EPA of the need for a separate or revised QAPP, and HSP, Respondents shall submit to EPA a revised QAPP and HSP as appropriate. If EPA disapproves of or requires revisions to the revised QAPP and HSP,

in whole or in part, Respondents shall amend and submit to EPA a revised treatability study QAPP and HSP, which is responsive to the directions in all EPA comments, within twenty-one (21) days of receiving EPA's comments.

If the original QAPP is not adequate for defining the activities to be performed during the treatability test, a separate treatability study QAPP or amendment to the original QAPP for the Site will be prepared by the Respondents for EPA review and approval. Task 1 of this Statement of Work provides additional information on the requirements of the QAPP.

F. Treatability Study Health and Safety Plan

If the original health and safety plan is not adequate for defining the activities to be performed during the treatment tests, a separate or amended health and safety plan will be developed by the Respondents. Task 1 of this statement of work provides additional information on the requirements of the health and safety plan. EPA does not "approve" the treatability study health and safety plan.

G. Treatability Study Evaluation Report

Within thirty (30) days of completion of any treatability testing, Respondents shall submit a Treatability Study Evaluation Report to EPA. If EPA disapproves of or requires revisions to the Treatability Study Evaluation Report, in whole or in part, Respondents shall amend and submit to EPA a revised Treatability Study Evaluation Report which is responsive to the directions in all EPA comments, within twenty-one (21) days of receiving EPA's comments.

Following completion of treatability testing, the Respondents shall analyze and interpret the testing results in a technical report to EPA. Depending on the sequences of activities, this report may be a part of the RI/FS report or a separate deliverable. The report will evaluate each technology's effectiveness, implementability, cost and actual results as compared with predicted results. The report will also evaluate full scale application of the technology, including a sensitivity analysis identifying the key parameters affecting full-scale operation.

VII. TASK VI - BASELINE RISK ASSESSMENTS

Respondents shall prepare a Baseline Risk Assessment for the Site which shall be incorporated by the Respondents into the RI. Respondents shall provide EPA with the following deliverables:

A. Baseline Human Health Risk Assessment (BHHRA)

1. Actual and potential cancer risks and non-cancer hazards to human health shall be identified and characterized in accordance with CERCLA, the NCP, and EPA

guidance including, but not limited to, the RI/FS Guidance, "Land Use in the CERCLA Remedy Selection Process" (OSWER Directive No. 9355.7-04) and the definitions and provisions of "Risk Assessment Guidance for Superfund ("RAGS")," Volume 1, "Human Health Evaluation Manual," (December 1989) (EPA/540/1-89/002). Other EPA guidance to be used in the development of risk assessments is provided in Appendix 1A.

2. Representative contaminants and associated concentrations in media including groundwater, soil, sediment, and surface water for the BHHRA shall be determined utilizing all currently available media-specific analytical data generated during the RI/FS.

3. Memorandum on Exposure Scenarios and Assumptions. Within 45 days after receiving written EPA approval of the RI/FS work plan, Respondents shall submit a memorandum describing the exposure scenarios and assumptions, taking into account for the BHHRA the present and reasonably anticipated future land use of the Site. The memorandum should include appropriate text describing the conceptual site model and exposure routes of concern for the Site, and include a completed RAGS Part D Table 1. This table shall describe the pathways that will be evaluated in the BHHRA, the rationale for their selection, and a description of those pathways that will not be evaluated. In addition, the Memorandum shall include a completed RAGS Part D Table 4 describing the exposure pathway parameters with appropriate references to EPA's 1991 Standard Default Assumptions and updated guidance developed by EPA. If EPA disapproves, or requires revisions to, the memorandum, in whole or in part, such disapproval or required revisions shall be provided in writing with reasons for the disapproval or directions for revisions to make the submittal approvable. Respondents shall amend and submit to EPA a revised memorandum that is responsive to the directions in all EPA comments, within 14 days of receiving EPA's comments.

4. Screening Level Risk Assessment. The Phase 1 Report will include a screening level human health risk assessment. The screening level human health risk assessment will evaluate the historic data as well as the Phase 1 sampling data to determine the appropriate analytical parameters for Phase 2 sampling.

   If the Interim Remedial Action Letter Report suggests that an IRM or early action would be appropriate, the screening level human health risk assessment will support the development of cleanup goals for such action.

5. Pathway Analysis Report ("PAR"). Respondents shall prepare and submit a PAR within forty-five (45) days after receipt of the last set of validated data. The PAR shall be developed in accordance with OSWER Directive 9285.7-01D-1 dated December 17, 1997 (or more recent version), entitled, "*Risk Assessment Guidelines for Superfund Part D*" and other appropriate guidance in Appendix 1A and updated thereto. The PAR shall contain all the information necessary for a reviewer to understand how the risks at the Site will be assessed. The PAR will build on the Memorandum on Exposure Scenarios and Assumptions (see A.3

above) describing the risk assessment process and how the risk assessment will be prepared. The PAR shall include completed RAGS Part D Tables 2, 3, 5, and 6 as described below. The PAR must be reviewed and approved by EPA prior to the submission of the draft BHHRA.

a. Chemicals of Concern (COC). The PAR shall contain all the information necessary for a reviewer to understand how the risks at the Berry's Creek Study Area will be evaluated.

   i. Respondents shall list the hazardous substances present in all sampled media (e.g., groundwater, soils, sediment, etc.) and the contaminants of potential concern ("COPCs") as described in RAGS Part A.

   ii. Table 2 - Selection of COCs. Representative contaminants and associated concentrations in sample media for the PAR shall be determined utilizing all currently available media-specific validated analytical data generated during the RI/FS. The selection of COCs shall follow RAGS Part A and before chemicals are deleted as COCs they shall be evaluated against the residential PRGs from Region IX. The COCs shall be presented in completed RAGS Part D Table 2 format.

b. Table 3 - Media Specific Exposure Point Concentrations. Using the chemicals selected in Table 2, this Table shall summarize the Exposure Point Concentrations for all COCs for the various media. The calculation of the Exposure Point Concentration shall follow the 1992 Guidance Document on the calculation of the 95% Upper Confidence Limit (UCL) on the Mean. In those cases where the 95% UCL exceeds the mean the maximum concentration shall be used as the EPC.

c. Tables 5 and 6 - Toxicological Information.

   This section of the PAR shall provide the toxicological data (e.g., Cancer Slope Factors, Reference Doses, Reference Concentrations, Weight of Evidence for Carcinogens, and adjusted dermal toxicological factors where appropriate) for the chemicals of concern. The toxicological data shall be presented in completed RAGS Part D Tables 5 and 6. The sources of data in order of priority are: EPA's Integrated Risk Information System (IRIS), Health Effects Assessment Summary Tables (HEAST)-1997 and contact with EPA's National Center for Environmental Assessment. To facilitate a timely completion of the PAR, the Respondents shall submit a list of chemicals for which IRIS values are not available to EPA as soon as identified thus allowing EPA to facilitate obtaining this information from EPA's National Center for Environmental Assessment.

If EPA disapproves, or requires revisions to, the PAR, in whole or in part, Respondents shall amend and submit to EPA a revised PAR that is responsive to the directions in all of EPA's written comments within twenty-one (21) days of receipt of EPA's comments.

d. Baseline Human Health Risk Assessment of the RI Report. Within forty-five (45) days of EPA's approval of the PAR, Respondents shall submit to EPA a Draft BHHRA for inclusion in the RI. The submittal shall include completed RAGS Part D Tables 7 through 10 summarizing the calculated cancer risks and non-cancer hazards and appropriate text in the risk characterization with a discussion of uncertainties and critical assumptions (e.g., background concentrations and conditions). Respondents shall perform the BHHRA in accordance with the approach and parameters described in the approved Memorandum of Exposure Scenarios and Assumptions and the PAR describe above. Text and tables from these previously approved reports shall be included in the appropriate sections of the BHHRA.

If EPA disapproves or requires revisions to the section, in whole or in part, such disapproval or required revision shall be provided in writing with reasons for the disapproval or directions for revisions to make the submittal approvable. Respondents shall amend and submit to EPA a revised report that is responsive to the directions in all EPA comments, within 30 days of receiving EPA's comments. The approved BHHRA shall be incorporated into the BCSA RI report.

B. Baseline Ecological Risk Assessment

1. As part of the Phase 1 Report, Respondents shall submit a Screening-Level Ecological Risk Assessment (SLERA) in accordance with current Superfund ecological risk assessment guidance (Ecological Risk Assessment Guidance for Superfund, Process for Designing and Conducting Ecological Risk Assessments [ERAGS], USEPA, 1997 [EPA/540-R-97-006]). The SLERA shall include a comparison of the maximum contaminant concentrations in each media of concern to appropriate conservative ecotoxicity screening values, and should use conservative exposure estimates.

If EPA disapproves of or requires revisions to the SLERA, in whole or in part, such disapproval or required revisions shall be provided in writing with reasons for the disapproval or directions for revisions to make the submittal approvable. Respondents shall amend and submit to EPA a revised SLERA that is responsive to the directions in all EPA comments, within 14 days of receiving EPA's comments.

2. Based on the historic data, it is assumed that a full Baseline Ecological Risk Assessment (BERA) will be required. Therefore, Respondents shall include in the Phase 1 Report a Scope of Work outlining the steps and data necessary to

perform the BERA, including any amendments to the RI/FS Work Plan required to collect additional relevant data. If EPA disapproves, or requires revisions to, the BERA Scope of Work, in whole or in part, Respondents shall amend and submit to EPA a revised BERA Scope of Work that is responsive to the directions in all of EPA's written comments within fourteen (14) days of receipt of EPA's comments. The BERA Scope of Work shall identify any RI/FS Work Plan amendments or addenda, including establishment of a schedule for review and approval of additional field work.

3. As part of the Phase 2 Report, Respondents shall submit a draft Baseline Ecological Assessment Report to EPA. Actual and potential ecological risks shall be identified and characterized in accordance with CERCLA, the NCP, and EPA guidance including, but not limited to, "Ecological Risk Assessment Guidance for Superfund, Process for Designing and Conducting Ecological Risk Assessments," (1997) (EPA/540-R-97-006), ERAGS, dated June 5, 1997 (or most recent guidance).

If EPA disapproves, or requires revisions to, the updated ecological assessment, in whole or in part, such disapproval or required revisions shall be provided in writing with reasons for the disapproval or directions for revisions to make the submittal approvable. Respondents shall amend and submit to EPA a final, updated ecological assessment that is responsive to the directions in all EPA comments. Respondents shall evaluate and assess the risk to the environment posed by site contaminants. As part of this subtask, Respondents shall perform the following activities:

a. Draft Baseline Ecological Risk Assessment Report. Respondent shall prepare a draft Ecological Risk Assessment Report that addresses the following:

i. Hazard Identification (sources). Respondents shall review available information on the hazardous substances present at the site and identify the major contaminants of concern.

ii Dose-Response Assessment. Respondents shall identify and select contaminants of concern based on their intrinsic toxicological properties.

iii. Characterization of the Berry's Creek Study Area and Potential Receptors. Respondents shall identify and characterize environmental exposure pathways.

iv. Select Chemicals, Indicator Species, and End Points. In preparing the assessment, the Respondent shall select representative chemicals, indicator species (species which are especially sensitive to environmental contaminants), and end points on which to concentrate.

v. Exposure Assessment. The exposure assessment shall identify the magnitude of actual or environmental exposures, the frequency and duration of these exposures, and the routes by which receptors are exposed. The exposure assessment shall include an evaluation of the likelihood of such exposures occurring and shall provide the basis for the development of acceptable exposure levels. In developing the exposure assessment, Respondents shall develop reasonable maximum estimates of exposure for both current land use conditions and potential land use conditions at the Site.

vi. Toxicity Assessment/Ecological Effects Assessment. The toxicity and ecological effects assessment shall address the types of adverse environmental effects associated with chemical exposures, the relationships between magnitude of exposures and adverse effects, and the related uncertainties for contaminant toxicity (e.g., weight of evidence for a chemical's carcinogenicity).

vii. Risk Characterization. During risk characterization, chemical-specific toxicity information, combined with quantitative and qualitative information from the exposure assessment, shall be compared to measured levels of contaminant exposure levels and the levels predicted through environmental fate and transport modeling. These comparisons shall determine whether concentrations of contaminants at or near the Site are affecting or could potentially affect the environment.

viii. Identification of Limitations/ Uncertainties. Respondents shall identify critical assumptions (e.g., background concentrations and conditions) and uncertainties in the report.

ix. Site Conceptual Model. Based on contaminant identification, exposure assessment, toxicity assessment, and risk characterization, Respondents shall develop a conceptual model of the Site.

b. Final Ecological Risk Assessment Report. Within 30 days of receiving EPA's comments on the Draft Ecological Assessment Report, Respondents shall amend and submit to EPA a final report which is responsive to the directions in all EPA comments.

VIII. TASK VII – PHASE 2 REPORT

Respondents shall prepare a Phase 2 Report for the Site that accurately establishes the Site's characteristics, such as the contaminated media, extent of contamination, and the physical boundaries of the contamination. This report shall summarize results of field activities to

characterize the Site, sources of contamination, and the fate and transport of contaminants. Pursuant to this objective, Respondents shall obtain the detailed data necessary to determine the key contaminants movement and extent of contamination. The key contaminants must be selected based on persistence and mobility in the environment and the degree of hazard. Respondents shall use existing standards and guidelines such as drinking water standards, water quality criteria, and other criteria accepted by EPA as appropriate for the situation that will be used to evaluate effects on human receptors which may be exposed to the key contaminants above appropriate standards or guidelines.

The Phase 2 Report shall be the equivalent of a Remedial Investigation Report, although several components of an RI will be broken out and submitted as separate reports, (*i.e.*, the Modeling Report and the Risk Assessment Reports). The Phase 2 Report shall be written in accordance with the "Guidance for Conducting Remedial Investigations/Feasibility Studies under CERCLA," OSWER Directive 9355.3-01, October 1988, Interim Final (or latest revision) and "Guidance for Data Usability in Risk Assessment," (EPA/540/G-90/008), September 1990 (or latest revision) and consistent with the "Region II RI Report Guidelines."

Respondents shall refer to the RI/FS Guidance for an outline of the report format and contents. Following comment by EPA, Respondents shall prepare a final Phase 2 Report which satisfactorily addresses EPA's comments.

A. Draft Phase 2 Report

In accordance with the schedule in the approved RI/FS Work Plan, Respondents shall submit a draft Phase 2 Report that is consistent with the "Region II RI Report Guidelines."

B. Final Phase 2 Report

Within forty-five (45) days of receiving EPA's comments on the Draft Phase 2 Report, Respondents shall amend and submit to EPA a Final Phase 2 Report which is responsive to the directions in all EPA comments.

IX. TASK VIII - DEVELOPMENT AND SCREENING OF REMEDIAL ALTERNATIVES

Concurrent with the RI site characterization task, Respondents shall begin to develop and evaluate a range of appropriate waste management options that at a minimum ensure protection of human health and the environment. The development and screening of remedial alternatives shall develop an appropriate range of waste management options that will be evaluated. This range of alternatives should include options in which treatment is used to reduce the toxicity, mobility, or volume of wastes, but varying in the types of treatment, the amount treated, and the manner in which long-term residuals or untreated wastes are managed; options involving containment with little or no treatment; options involving both treatment and containment; and a

no-action alternative. The following activities will be performed as a function of the development and screening of remedial alternatives.

A. Development and Screening of Remedial Alternatives

1. Develop General Response Action

Respondent shall develop general response actions for each medium of interest defining containment, treatment, excavation, pumping, or other actions, singly or in combination to satisfy the remedial action objective.

2. Identify Areas or Volumes of Media

Respondent shall identify areas or volumes of media to which general response actions may apply, taking into account requirements for protectiveness as identified in the remedial action objectives. The chemical and physical characterization of the Berry's Creek Study Area will also be taken into account.

3. Assemble and Document Alternatives

Respondents shall assemble selected representative technologies into alternatives for each affected medium or operable unit.

Together, all of the alternatives will represent a range of treatment and containment combinations that will address either the Site or the operable unit(s) as a whole. A summary of the assembled alternatives and their related action-specific ARARS will be prepared by Respondents for inclusion in a technical memorandum.

The reasons for eliminating alternatives during the preliminary screening process must be specified.

4. Refine Alternatives

Respondents shall refine the remedial alternatives to identify contaminant volume addressed by the proposed process and sizing of critical unit operations as necessary. Sufficient information will be collected for an adequate comparison of alternatives. PRGs for each chemical in each medium will also be modified as necessary to incorporate any new risk assessment information presented in the baseline risk assessment report. Additionally, action-specific ARARs will be updated as the remedial alternatives are refined.

5. Conduct and Document Screening Evaluation of Each Alternative

Respondents may perform a final screening process based on short and long term aspects of effectiveness, implementability, and relative cost. Generally, this screening process is only necessary when there are many feasible alternatives

available for detailed analysis. If necessary, the screening of alternatives will be conducted to assure that only the alternatives with the most favorable composite evaluation of all factors are retained for further analysis. As appropriate, the screening will preserve the range of treatment and containment alternatives that was initially developed. The range of remaining alternatives will include options that use treatment technologies and permanent solutions to the maximum extent practicable.

B. Development and Screening of Alternatives Deliverables

Within thirty (30) days after EPA's approval of the Baseline Risk Assessment, or within 30 days after EPA's approval of Respondents' Treatability Study Evaluation report (if treatability studies are undertaken), whichever is later, Respondents shall: (1) upon EPA's request, make a presentation to EPA and the State identifying the remedial action objectives and summarizing the development and preliminary screening of remedial alternatives, and (2) prepare and submit a Development and Screening of Remedial Alternatives technical memorandum summarizing the work performed in, and the results of, each task above, including an alternatives array summary. The memorandum shall also summarize the reasoning employed in screening, arraying alternatives that remain after screening, and identifying the action-specific ARARs for the alternatives that remain after screening. If required by EPA's comments, these remaining alternatives will be modified by the Respondents to assure that a complete and appropriate range of viable alternatives are identified and considered in the detailed analysis. This deliverable will document the methods, rationale, and results of the alternatives screening process.

C. Detailed Analysis of Remedial Alternatives

The detailed analysis will be conducted by the Respondents to provide EPA with the information needed to allow for the selection of a remedy for the Berry's Creek Study Area/the Site. This analysis is the final task to be performed by Respondents during the FS.

1. Detailed Analysis of Alternatives

Respondents shall conduct a detailed analysis of alternatives which will consist of an analysis of each option against a set of nine evaluation criteria and a comparative analysis of all options using the same evaluation criteria as a basis for comparison.

2. Apply nine criteria and document analysis

Respondents shall apply nine evaluation criteria to the assembled remedial alternatives to ensure that the selected remedial alternative will be protective of human health and the environment; will be in compliance with, or include a waiver of, ARARS; will be cost-effective; will utilize permanent solutions and alternative treatment technologies, or resource recovery technologies, to the maximum extent practicable; and will address the statutory preference for

treatment as a principal element. The evaluation criteria include: (1) overall protection of human health and the environment; (2) compliance with ARARs; (3) long-term effectiveness and permanence; (4) reduction of toxicity, mobility, or volume; (5) short-term effectiveness; (6) implementability; (7) cost; (8) state (or support agency) acceptance; and (9) community acceptance.

(Note: criteria 8 and 9 are considered after the RI/FS Report has been released to the general public). For each alternative, Respondents should provide: (1) a description of the alternative that outlines the waste management strategy involved and identifies the key ARARs associated which each alternative, and (2) a discussion of the individual criterion assessment. If Respondents do not have direct input on criteria (8) state (or support agency) acceptance and (9) community acceptance, these will be addressed by EPA.

3. Compare Alternatives and Document the Comparison of Alternatives

Respondents shall perform a comparative analysis between the remedial alternatives. That is, each alternative will be compared against the others using the evaluation criteria as a basis of comparison. Identification and selection of the preferred alternative are reserved by EPA. Respondents shall prepare a technical memorandum summarizing the results of the comparative analysis.

4. Detailed Analysis Deliverables

Respondents shall submit a draft FS report to EPA for review and approval. Once EPA's comments have been addressed by Respondents to EPA's satisfaction, the final FS report may be bound with the final RI report.

X. TASK IX - PHASE 3 REPORT

A. Respondents shall prepare a Phase 3 Report for the Site. The Phase 3 Report will be the equivalent of a Feasibility Study, consisting of a detailed analysis of and a cost-effectiveness analysis, in accordance with the National Contingency Plan (NCP), 40 CFR Part 300, as well as the most recent guidance. Within thirty (30) days of EPA's acceptance of the Task VIII presentation to EPA, Respondents shall submit to EPA a Draft FS report which reflects the findings in the approved Baseline Risk Assessment. Respondents shall refer to the RI/FS Work Plan and the RI/FS Guidance and the SOW for report content and format. Within fourteen (14) days of submitting the draft FS report, unless extended by EPA, Respondents shall make a presentation to EPA and the State at which Respondents shall summarize the findings of the draft FS report and discuss EPA's and the State's preliminary comments and concerns associated with the draft FS report. If EPA disapproves of or requires revisions to the draft FS report, in whole or in part, Respondents shall amend and submit to EPA a revised draft FS report which is responsive to the directions in EPA's comments, within twenty-one (21) days of receiving EPA's written comments.

B. Respondents shall prepare a draft FS report for EPA review and comment. The FS report shall contain the following:

1. Summarize Feasibility Study objectives

2. Summarize remedial objectives

3. Articulate general response actions

4. Identification and screening of remedial technologies

5. Remedial alternatives description

6. Detailed analysis of remedial alternatives

7. Summary and conclusions

Respondents' technical feasibility considerations shall include the careful study of any problems that may prevent a remedial alternative from mitigating site problems. Therefore, the site characteristics from the RI must be kept in mind as the technical feasibility of the alternative is studied. Specific items to be addressed are reliability (operation over time), safety, operation and maintenance, ease with which the alternative can be implemented, and time needed for implementation.

ATTACHMENT A

REFERENCES FOR CITATION

The following list, although not comprehensive, comprises many of the regulations and guidance documents that apply to the RI/FS process:

The National Hazardous Substance and Oil Pollution Contingency Plan, 40 CFR 300 *et seq.*

"Guidance for Conducting Remedial Investigations and Feasibility Studies Under CERCLA," U.S. EPA, Office of Emergency and Remedial Response, October 1988, OSWER Directive No. 9355.3-01

"Contaminated Sediment Remediation Guidance for Hazardous Waste Sites," U.S. EPA, Office of Solid Waste and Emergency Response, December 2005, OSWER Directive No. 9355.0-85

"Interim Guidance on Potentially Responsible Party Participation in Remedial Investigation and Feasibility Studies," U.S. EPA, Office of Waste Programs Enforcement, Appendix A to OSWER Directive No. 9355.3-01.

"Guidance on Oversight of Potentially Responsible Party Remedial Investigations and Feasibility Studies," U.S. EPA, Office of Waste Programs Enforcement, OSWER Directive No. 9835.3.

"A Compendium of Superfund Field Operations Methods," Two Volumes, U.S. EPA, Office of Emergency and Remedial Response, EPA/540/P-87/001a, August 1987, OSWER Directive No. 9355.0-14.

"EPA NEIC Policies and Procedures Manual," May 1978, revised November 1984, EPA-330/9-78-001-R.

"Data Quality Objectives for Remedial Response Activities," U.S. EPA, Office of Emergency and Remedial Response and Office of Waste Programs Enforcement, EPA/540/G-87/003, March 1987, OSWER Directive No. 9335.0-7B.

"Uniform Federal Policy for Implementing Quality Systems (UFP-QS)," EPA-505-F-03-001, March 2005

"Uniform Federal Policy for Quality Assurance Project Plans (UFP-QAPP)," Parts 1, 2 and 3, EPA-505-B-04-900A, B and C, March 2005

"Guidelines and Specifications for Preparing Quality Assurance Project Plans," U.S. EPA, Office of Research and Development, Cincinnati, OH, QAMS-004/80, December 29,1980.

"EPA Requirements for QAPPs for Environmental Data Operations," U.S. EPA, Office of Emergency and Remedial Response, QA/R-5, October 1998.

"Interim Guidelines and Specifications for Quality Assurance Project Plans," U.S. EPA, Office of Emergency and Remedial Response, QAMS-005/80, December 1980.

"Users Guide to the EPA Contract Laboratory," U.S. EPA, Sample Management Office, August 1982.

"Interim Guidance with Applicable or Relevant and Appropriate Requirements," U.S. EPA, Office of Emergency and Remedial Response, July 9, 1987, OSWER Directive No. 9234.0-05.

"CERCLA Compliance with Other Laws Manual," Two Volumes, U.S. EPA, Office of Emergency and Remedial Response, August 1988 (draft), OSWER Directive No. 9234.1-01 and -02.

"Guidance on Remedial Actions for Contaminated Ground Water at Superfund Sites," U.S. EPA, Office of Emergency and Remedial Response, (draft), OSWER Directive No. 9283.1-2.

"Draft Guidance on Superfund Decision Documents," U.S. EPA, Office of Emergency and Remedial Response, March 1988, OSWER Directive No. 9355.-02

"Risk Assessment Guidance for Superfund - Volume I Human Health Evaluation Manual" (Part A), EPA/540/1-89/002

"Risk Assessment Guidance for Superfund - Volume I Human Health Evaluation Manual" (Part B), EPA/540/R-92/003.

"Risk Assessment Guidance for Superfund - Volume II Environmental Evaluation Manual," March 1989, EPA/540/1-89/001.

"Guidance for Data Useability in Risk Assessment," October, 1990, EPA/540/G-90/008.

"Performance of Risk Assessments in Remedial Investigation/ Feasibility Studies (RI/FSs) Conducted by Potentially Responsible Parties (PRPs)," August 28, 1990, OSWER Directive No.9835.15.

"Risk Evaluation of Remedial Alternatives" (Part C), December 1991, OSWER Directive 9285.7-01C.

"Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions," April 22, 1991, OSWER Directive No. 9355.0-30.

"Supplemental Guidance to RAGS: Calculating the Concentration Term," May 1992, OSWER Directive 9285.7-081.

"Health and Safety Requirements Employed in Field Activities," U.S. EPA, Office of Emergency and Remedial Response, July 12, 1981, EPA Order No. 1440.2.

OSHA Regulations in 29 CFR 1910.120 (Federal Register 45654, December 19, 1986).

"Interim Guidance on Administrative Records for Selection of CERCLA Response Actions," U.S. EPA, Office of Waste Programs Enforcement, March 1, 1989, OSWER Directive No. 9833.3A.

"Community Relations in Superfund: A Handbook," U.S. EPA, Office of Emergency and Remedial Response, June 1988, OSWER Directive No. 9230.03B.

"Community Relations During Enforcement Activities And Development of the Administrative Record," U.S. EPA, Office of Programs Enforcement, November 1988, OSWER Directive No. 9836.0-1a.

HUMAN HEALTH RISK ASSESSMENT GUIDANCE DOCUMENTS

Superfund Risk Assessment Guidance

USEPA, 1989, Risk Assessment Guidance for Superfund (RAGS); Volume I Human Health Evaluation Manual Part A. OERR. EPA/540/1-89/002. Available at: http://www.epa.gov/superfund/programs/risk/ragsa/index.htm

USEPA, 1990, Risk Assessment Guidance for Superfund (RAGS); Volume I, Human Health Evaluation Manual, (Part B, Development of Risk-Based Preliminary Remediation Goals) OERR, EPA/540/R-92/003. Available at: www.epa.gov/superfund/programs/risk/ragsb/index.htm

USEPA, 1991. Risk Assessment Guidance for Superfund (RAGS); Volume I, Human Health Evaluation Manual (Part C, Risk Evaluation of Remedial Alternatives), OSWER Directive 9285.7-01C, December 1991. Available at: www.epa.gov/superfund/programs/risk/ragsc/index.htm

USEPA, 1996. Revised Policy on Performance of Risk Assessments During Remedial Investigation/Feasibility Studies (RI/FS) Conducted by Potentially Responsible Parties, OSWER Directive No. 9340.1-02 mistakenly numbered 9835.15c.

USEPA, 1997. Risk Assessment Guidance for Superfund (RAGS); Volume I, Human Health Evaluation Manual, Part D., OERR, Interim Publication No. 9285.7-01D. Available at: www.epa.gov/superfund/programs/risk/ragsd/index.htm

USEPA, 1999. Risk Assessment Guidance for Superfund (RAGS). Volume I, Community Involvement in Superfund Risk Assessments. OSWER 9285.7-01, EPA540-R-98-042, PB-99-96303, March 1999. Available at: www.epa.gov/superfund/programs/risk/ragsa/c1_ra.pdf.

Exposure Factors

USEPA, 1991, RAGS Volume I: Human Health Evaluation Manual Supplemental Guidance. Standard Default Exposure Factors. OSWER Directive 9285.6-03. March 25, 1991.

USEPA, 1992. Supplemental Guidance to RAGS: Calculating the Concentration Term. OSWER 9285.7-081. May 1992.

USEPA, 1997. Exposure Factors Handbook - Final, Office of Health and Environmental Assessment, Washington, D.C. Available at: www.epa.gov/ncea/exposfac.htm.

Dermal Exposure

USEPA, 1992. Dermal Exposure Assessment: Principles and Applications. OSWER. EPA/600/8-91/011B. January. Available at: http://www.epa.gov/ncea/dermal.htm.

USEPA, 1999. Risk Assessment Guidance for Superfund Volume I: Human Health Evaluation Manual: (Part E, Supplemental Guidance for Dermal Risk Assessment) Interim Guidance, OSWER Directive 9285.7-10. Please contact Region II risk assessors to discuss any potential updates to the factors in this guidance.

Toxicity and Chemical Specific Guidance

USEPA, current version. Integrated Risk Information System (IRIS); On-line Service. Available at:.www.epa.gov/iris).

USEPA, 1993. Provisional Guidance for Quantitative Risk Assessment of Polycyclic Aromatic Hydrocarbons. EPA/600/R-93/C89. July 1993.

USEPA, 1996. PCBs: Cancer dose-response assessment and application to environmental mixtures. EPA/600/P-96/001A. Available at: http://www.epa.gov/ncea/pcbs.html.

USEPA. 1997. Health Effects Assessment Summary Tables (HEAST), FY'97 Update. U. S. Environmental Protection Agency, Office of Solid Waste and Emergency Response. EPA/540-F-97-036. July 1997.

Risk Characterization Guidance

USEPA 1995. Memorandum from Carole Browner on Risk Characterization, U.S. EPA, February 22, 1995. Available at: http://www.epa.gov/ordntrnt/ORD/spc/2riskchr.html.

USEPA, 1995. EPA Risk Characterization Program. Memo from Administrator Carol Browner dated March 21, 1995. Available at: http://www.epa.gov/ordntrnt/ORD/spc/2riskchr.html.

Risk Assessment Guidelines and Policies

USEPA, 1986. Risk Assessment Guidelines for Mutagenicity Risk Assessment. 51 Federal Register 34006, September 24, 1986.

USEPA, 1986. Risk Assessment Guidelines for Chemical Mixtures 51 Federal Register 34014, September 24, 1986.

USEPA, 1992. Risk Assessment Guidelines for Exposure Assessment. Federal Register. Available at: http://www.epa.gov/nceawww1/exposure.htm

USEPA, 1995. Neurotoxicity Cancer Guidelines. Federal Register. 60 FR 52-32-52056, October 4, 1995.

USEPA, 1996. Proposed Guidelines for Carcinogen Risk Assessment. EPA/600/P-92/003C. Available from: http://www.epa.gov/ORD/WebPubs/carcinogen/.

USEPA, 1996. Guidelines for Reproductive Toxicity Risk Assessment. EPA/630/R-96/009, September 1996. Available at: http://www.epa.gov/ORD/WebPubs/repro/.

USEPA, 1996. Proposed Guidelines for Carcinogen Risk Assessment. EPA/600/P-92/003C, April 1996. Available at: http://www.epa.gov/ORD/WebPubs/carcinogen.

Data Useability and Quality

USEPA, 1992. Final Guidance on Data Useability in Risk Assessment (Part A), OSWER Directive 9285.7-09A., June 1992. Available at: www.epa.gov/programs/risk/datause/parta.htm.

USEPA, 1992. Guidance for Data Useability in Risk Assessment (Part B), OSWER Directive 9285.7-09B, August 1992. Available at: www.epa.gov/programs/risk/datause/partb.html.

USEPA, 1993. Data Quality Objectives Process for Superfund, Interim Final Guidance. OSWER Publication 93559-01, EPA 540-R-93-071.

Air

USEPA, 1989. Air/Superfund national Technical Guidance Study Services, Volumes I-IV, EPA 450/1-89/001, 002, 003, 004, July 1989.

Soil

USEPA, 1993. Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Faci

USEPA, 1996. Recommendations of the Technical Review Workgroup for Lead for an Interim Approach to Assessing Risks Associated with Adult Exposures to Lead in Soils. Available at: http://www.epa.gov/superfund/programs/lead/prods.htm.

USEPA, 1996. Soil Screening Guidance, Fact Sheet. EPA 540/F-95/041. Available at: www.epa.gov/superfund/resources/soil/index.htm#fact.

USEPA, 1996. Soil Screening Guidance: User's Guide. EPA Doc. # 540/R-96/018, July 1996. Available at: www.epa.gov/superfund/resources/soil/

USEPA, 1996. Final Soil Screening Guidance, and Associated Appendices. May 17, 1996. Soil Screening Guidance User's Guide, EPA 540/R-96/018. Available at: www.epa.gov/superfund/resources/soil/

USEPA, 1996. Soil Screening Guidance: Technical Background Document (TBD). EPA Document Number: EPA/540/R-95/128, July 1996
Available at: www.epa.gov/superfund/resources/soil/.

Lead

USEPA, 1994. Technical Support Document for the Integrated Exposure Uptake Biokinetic Model for Lead in Children (December 1994) [NTIS #PB94-963505, OSWER #9285.7-22]. Software available at: http://www.epa.gov/superfund/programs/lead/prods.html.
USEPA, 1994. Validation Strategy for The Integrated Exposure Uptake Biokinetic Model for Lead in Children (December 1994). Available at: http://www.epa.gov/superfund/programs/lead/prods.htm.

USEPA, 1994. Guidance Manual for the Integrated Exposure Uptake Biokinetic Model for Lead in Children (February 1994) [NTIS #PB93-963510, OSWER #9285.7-15-1]. Available at: http://www.epa.gov/superfund/programs/lead/prods.htm.

USEPA, 1998. Proposed TSCA §403 Soil Lead Hazard and OSWER's Lead-in-Soils Policy. EPA 540-F-98-061, OSWER 9200.4-29, PB 99-963211. Memorandum from Lynn Goldman and Tim Fields to Regional Administrators. Available at: http://www.epa.gov/superfund/programs/lead/prods.htm

USEPA, 1998. Clarification to the 1994 Revised Interim Soil Lead Guidance for CERCLA Sites and RCRA Corrective Action Facilities. OSWER Directive 9200.4-27, EPA/540/F-98/030 PB98-963244, OSWER Directive # 9200.4-27P. Memorandum from: Tim Fields to Regional Administrators. Available at: http://www.epa.gov/superfund/programs/lead/prods.htm.

Risk Management

USEPA, 1992. National Oil and Hazardous Substances Pollution Contingency Plan (The NCP). OERR, OSWER Publication 9200.2-14, January 1992. USEPA, 1993. Role of the Baseline Risk Assessment in Superfund Remedy Selection Decisions, OSWER Directive 9355.0-30.

USEPA, 1993. Guidance for Conducting Non-Time Critical Removal Actions Under CERCLA. OSWER 540-R-93-057, August, 1993.

USEPA, 1996. Revised policy on performance of risk assessments during RI/FS conducted by Potentially Responsible Parties. OSWER Directive No. 9340.1-02.

Monte Carlo Analysis

USEPA, 1997. Policy For Use Of Probabilistic Analysis In Risk Assessment at the U.S. Environmental Protection Agency. Guiding Principles for Monte Carlo Analysis - (EPA Document No. EPA/630/R-97/001, March 1997). Available at: http://www.epa.gov/ORD/spc/probpol.html.

USEPA, 1997. Guiding Principles for Monte Carlo Analysis. EPA/630/R-97/001, March 1997. Available at: http://www.epa.gov/ncea/monteabs.html.

Children's Health Issues

USEPA, 1995. New Policy on Evaluating Health Risks to Children. From Administrator Carol Browner to: Assistant Administrators, General Counsel, Inspector General, Associate Administrators and Regional Administrators. October 20, 1995. Available at: http://www.epa.gov/ORD/spc/memo1020.html

USEPA, 1995. Policy on Policy on Evaluating Health Risks to Children. Available at: http://www.epa.gov/ORD/spc/memohlth.html.

Additional Guidance:

USEPA, 1997. Special Report on Environmental Endocrine Disruption: An Effects Assessment and Analysis. EPA/630/R-96/012. February,1997. http://www.epa.gov/ORD/WebPubs/endocrine/.

USEPA, 1997. Cumulative Risk Assessment Guidance-Phase I Planning and Scoping. Memorandum to: Assistant Administrators, General Counsel, Inspector General, Associate Administrators, Regional Administrators and Staff Office Directors, dated July 3, 1997. Available at: http://www.epa.gov/ORD/spc/cumulrsk.html.

USEPA, 1997. Guidance on Cumulative Risk Assessment. Part 1. Planning and Scoping. U.S. Environmental Protection Agency, Science Policy Council, July 3, 1997. Available at: www.epa.gov/ORD/spc/cumrisk2.html.

Chemical Specific Documents of Interest

Chemical specific documents for mercury, arsenic, lead, and PCBs and other contaminants are available at: www.epa.gov/nceawww1/healthri.html.

EPA homepage for human health risk assessment documents:
http://www.epa.gov/superfund/programs/risk/toolthh.htm#GG.

	Company	Company 2	Group
1	3M Co.		B,C
2	A.E. Staley Manufacturing Co.	c/o Tate & Lyle Americas, Inc.	B
3	ABB, Inc. (Bailey Controls Co.)		B
4	Air Products and Chemicals, Inc.		C
5	Airco Industrial Gases (The BOC Group, Inc.)		B
6	Akzo Nobel Coatings, Inc.		C
7	Alcoa, Inc.		B
8	Allied Chemical		B
9	Altje, Inc.		C
10	American Cyanamid		B,C
11	American Standard Companies		C
12	Andersen Land Corp.	f/k/a J.M. Ney Company	B
13	Arsynco, Inc.	c/o Aceto Corp.	A,B
14	Ashland, Inc.		C
15	BASF Corporation		B,C
16	Bayer Chemicals Corp.		C
17	Beazer East Inc.	c/o Three Rivers Management, Inc.	B
18	Becton, Dickinson and Co.		A,B
19	Bee Chemical Co.		C
20	Belfort Instrument Co.		B
21	Belmont Metals, Inc		B
22	Benjamin Moore & Co.		C
23	Ber Mar Manufacturing Corp.		C
24	Borden Chemical, Inc.		C
25	Bristol-Myers Squibb Company		C
26	Browning-Ferris Industries of New Jersey		C
27	Chemcoat, Inc.	Robertson, Freilich, Bruno & Cohen	C
28	Ciba Specialty Chemicals Corp.		B,C
29	CNA Holdings, Inc.		C
30	Columbia University		B
31	Congoleum Corp.		C
32	Continental Holdings, Inc.	Dwyer, Golub & Isabel	C
33	Cooper Industries, Inc.		B
34	Cosan Chemical Corp.		A,B
35	Crown Beverage Packaging Company, Inc.	Dwyer, Golub & Isabel	C
36	Curtiss-Wright Corp.		B
37	Cycle Chem Inc.		C
38	D.F. Goldsmith Chemical and Metal Corporation		B
39	Dow Corning Corporation		B
40	Dri-Print Foils, Inc.	API Foils, Inc.	C
41	DuPont Co.	DuPont Legal – D7082	B,C
42	Electromek Company	c/o ADLIP, LLC & JLIPP, Inc	A
43	Englehard Minerals and Chemicals Corporation		B

	Company	Company 2	Group
44	Exxon Mobil Corp.	ExxonMobil Refining & Supply Co.	B,C
45	Federal Aviation Administration		B
46	FMC Corp		B
47	General Electric Co.		B,C
48	General Motors Corp.	M.C. 482-C24-D24	C
49	Henkel Corp.		A,B
50	Hoffman-La Roche Inc.		B,C
51	Honeywell International, Inc.		A,C
52	Houghton Chemical Corp.		A
53	Inco, Ltd. (f/k/a International Nickel, Inc.)		B
54	Inmar Associates, Inc.		B
55	ISP Environmental Services, Inc.		C
56	John L. Armitage & Co.	Robertson, Freilich, Bruno & Cohen	C
57	Johnson & Johnson		C
58	K.E.M. Chemical, Inc.		B
59	KBR Energy & Chemicals	(M.W. Kellogg Co.)	B
60	Kirker Enterprises, Inc.		C
61	L.E. Carpenter & Co.	PolyOne Corporation	C
62	Legacy Site Services	f/k/a ATOFINA Chemicals	C
63	Lucent Technologies Inc.	7B-513A	C
64	Mack Trucks, Inc.		C
65	Magid Corp.	Law Offices of Martin H. Scher	C
66	Magnesium Elektron, Inc.		B
67	Mallinckrodt Baker, Inc.		C
68	Mallinckrodt, Inc.		B
69	Manor Care Health Services, Inc.		C
70	Manor Care of America, Inc.		C
71	Marisol, Inc.		B,C
72	McMillion		B
73	Merck & Co., Inc.	P.O. Box 200	B,C
74	Monroe Chemical, Inc.		C
75	Mt. Union College		B
76	MTA		B
77	Nepera, Inc.	c/o Cambrex Corporation	B,C
78	New England Laminates Co., Inc.		B,C
79	New Jersey Institute of Technology		B
80	NL Industries, Inc.(Goldsmith Div.)		B
81	Northrop Grumman Systems Corp.		C
82	Occidental Chemical Corporation		A,B,C
83	Olin Corp.		B
84	Paxar Corporation	Innovative Plastics Corporation	C
85	Pease and Curren, Inc.		B
86	Permacel, A Nitto Denko Company		C

	Company	Company 2	Group
87	Pfizer Inc.		B,C
88	Pharmacia Corporation	Pfizer Inc.	C
89	Phillips & Jacobs, Inc.		B
90	Port Authority of NY and NJ		A
91	Portfolio One, Inc.		C
92	PSE&G		B
93	PSG Industries		B
94	Pure Lab of America		B
95	Randolph Products Co.		B
96	Ray-O-Vac		B
97	Reckitt Benckiser Inc.	(c/o McCarter & English, LLP)	A
98	Refinity Corporation	(f/k/a Eastern Smelting & Refining C	B
99	Revlon Consumer Products Corp.		C
100	Roadway Express, Inc.		A
101	Robertshaw Industrial Products Division		B
102	Roche Vitamins, Inc.		C
103	Rohm & Haas Co.		A,C
104	Royce Associates		B
105	Rutgers, The State University of New Jersey		B
106	Sanofi-Aventis	(successor to Rhone-Poulenc Rorer)	B
107	Schenectady International, Inc.		C
108	Seaforth Mineral & Ore Co.		B
109	Seagrave Coatings Corp (NI)	(a/k/a Chemway Coatings Corp.)	C
110	Siegfried (USA), Inc.		C
111	Simon Wrecking Company, Inc	Simon Resources, Inc.	C
112	SmithKline Beecham Corporation	GlaxoSmithKline	C
113	SPX Corp. (for General Signal Corp.)		B
114	State University of New York at Buffalo		B
115	Stevens Institute of Technology		B
116	Sumitomo Machinery Corporation of America		A
117	Sun Chemical Corp.		A
118	Sylvania		B
119	Technical Coatings Co.		C
120	Tenneco Inc.		B
121	The Dow Chemical Company		C
122	The Dow Chemical Company	for Dowell Industrial Services	C
123	The Gillette Company (Duracell, Inc.)		C
124	The Warner Lambert Company	Pfizer Inc.	C
125	Transtech Industries Inc.		B
126	Uehling Instrument Co., Inc.		B
127	Union Carbide Corporation		B,C
128	United Technologies Corporation		C

	Company	Company 2	Group
129	University of Illinois		B
130	University of Minnesota		B
131	UOP LLC		B
132	Var-Lac-Oid Chemical Company, Inc.		B
133	Viacom Inc.		C
134	W.A. Baum Co., Inc.		B
135	Wagner Electric Company		B
136	Western Michigan University		B
137	Westinghouse Electric Corporation		B
138	WIMCO Metals Inc. (Wilkinsburg Iron and Metal Co.)		B
139	Marvin H. Mahan		B
140	John Sacchetti		B